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The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

Published Every Thursday TULSA, OKLAHOMA, OCTOBER 17, 1929 $6.00 a Year

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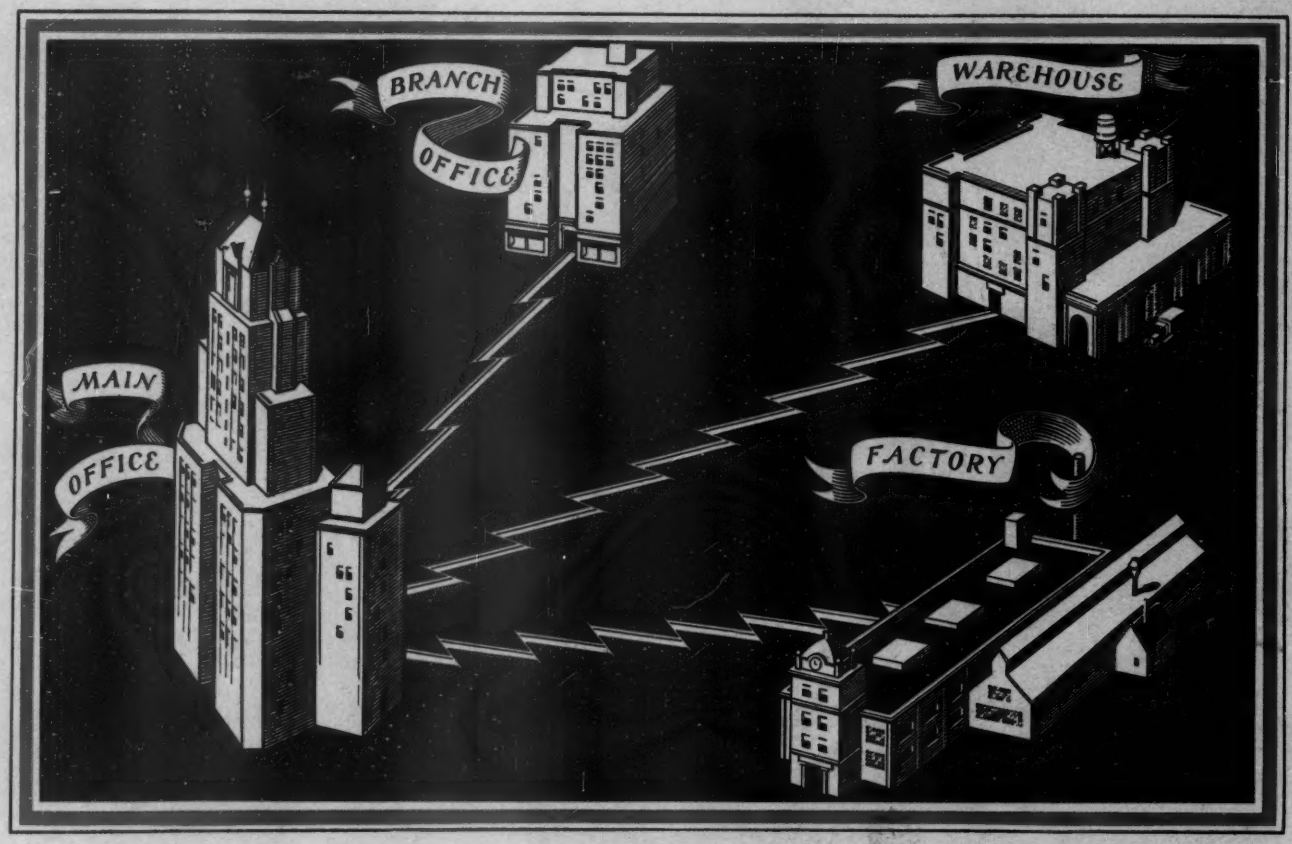
An experienced lover *could* buy his lady friend cheaper flowers than orchids but he knows that no others are so sure to please, and so certain to be free from regrets.

The experienced oil man feels the same way about his cementing. Although cheaper methods are available, he insists on the HALLIBURTON for the same reason that he insists on a reliable and time-tested insurance company.

HALLIBURTON
OIL WELL CEMENTING CO.
Duncan, Oklahoma

Advertisers' Index on Page 25 Table of Contents on Page 26

2 or 22 connected offices receive the message Simultaneously



Special arms of the telephone service are being called into use more and more by business concerns. These Bell System private wire services have been developed to fit the varying needs of business.

Telephone Typewriter Service, one of these special arms, is a quick, accurate method of inter-office communication.

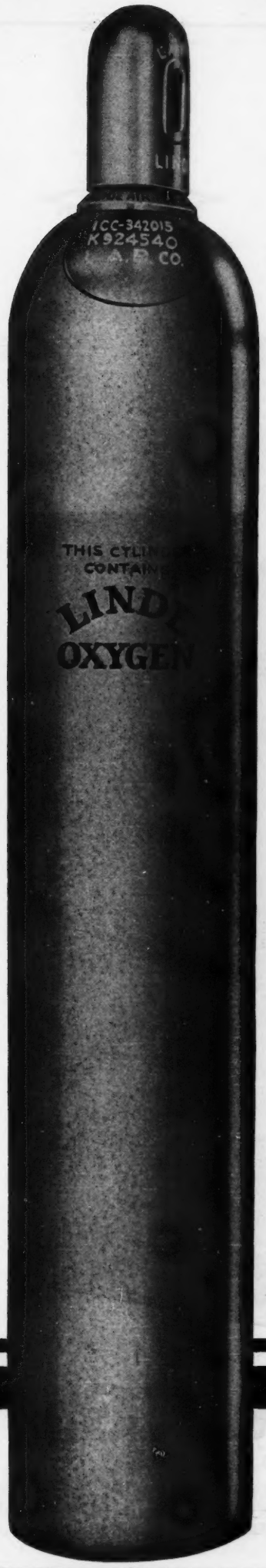
It connects main office with branch houses, factories and warehouses for instant typewritten communication. It is just like having all of your units under one roof. As large a number of points as desired can be reached at the same time on the same circuit.

Telephone Typewriter Service is being used increasingly by electric light and power companies, trust companies, manufacturing firms, newspapers, press associations, investment security houses, brokerage and bond concerns, banks and government departments.

Would this special arm of the telephone service bring development and profit to your business? It can be tailor-made to suit your special needs.

Your local Bell Telephone Business Office will gladly discuss it with you.

Bell Special Services are *Convenient . . . Economical . . . Universal.*



LINDE OXYGEN

Available Anywhere

LINDE Oxygen is a quality product —standard for more than two decades. Its economical application to your particular requirements is assured by the operative assistance and engineering counsel of Linde Process Service.

64 Linde Plants and 154 Warehouse Stocks are located in key cities throughout the country. This vast production and distribution system makes Linde Oxygen available anywhere at little or no transportation cost.

THE LINDE AIR PRODUCTS CO.

Unit of Union Carbide and Carbon Corporation

UCC

General Offices: Carbide and Carbon Building
30 East 42nd Street, New York

The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Okla., under the Act of March 3, 1879.

With The Crankshaft

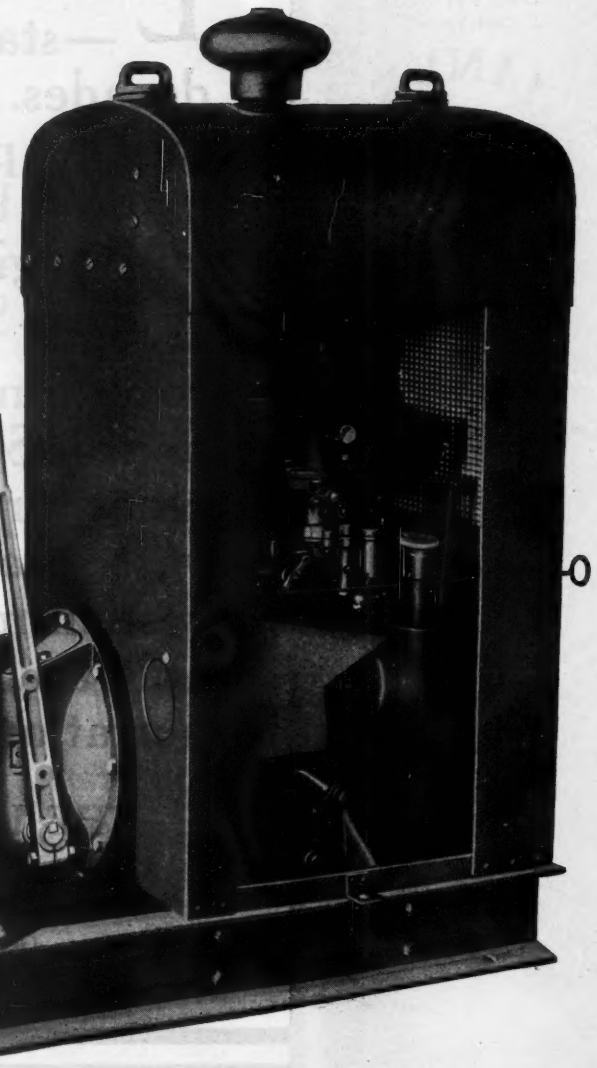
TIMKEN BEARING EQUIPPED

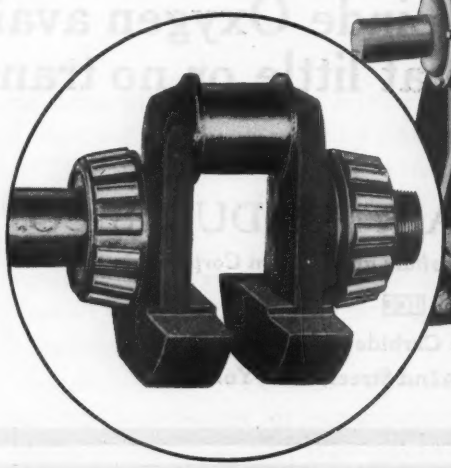
To stand the gaff at the hardest service point —to make sure that its engine will give the service that a general purpose industrial engine should—the Fuller and Johnson Mfg. Company has selected Timkens for the crankshaft bearings in its entire line of Type AH industrial engines.

Radial loads, thrust loads, and fluctuating loads caused by variations in the explosion pressures in the cylinder are all taken care of with equal facility. The initial set up of the crankshaft, which is necessary for proper performance of the engine, is maintained indefinitely by the rigidity of Timken line contact and greater load area. Thus continuity of service is assured, and upkeep cut to the bone.

These benefits are made permanent by Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken steel.

THE TIMKEN ROLLER BEARING COMPANY CANTON, OHIO





TIMKEN *Tapered Roller* **BEARINGS**

Regardless of the Job LANDIS Performance Is Better

In the oil fields a pipe threading machine must be capable of threading a wide variety of materials—wrought iron pipe, low carbon steel pipe, or seamless steel tubing. It must be capable of producing accurate threads one hour per day or twenty four hours per day, if necessary.

Due to its exceptional performance the Landis Pipe Threading and Cutting Machine will meet oil country requirements for accuracy and production with unequalled efficiency, and due to low operating costs it will insure a wider margin of profit.

Many distinctive features of design place the Landis Pipe Threading and Cutting Machine in a class by itself for flexibility, high production, accuracy, and low maintenance cost.

We will be glad to discuss these features with you. Write us for details.

LANDIS MACHINE COMPANY, Inc., Waynesboro, Pa.

Detroit Office—5928 Second Blvd.
Cleveland Office—504-505 Marshall Bldg.

REPRESENTED IN THE DOMESTIC OIL FIELDS BY: Colcord-Wright Machinery & Supply Co., St. Louis, Mo.; D. S. Mair Machinery Co., Houston, Tex.; Woodward, Wight & Co., New Orleans, La.; Herberts Machinery & Supply Co., Los Angeles, Calif.; Herberts Moore Machinery Co., San Francisco, Calif.; Hendrie & Bolthoff Mfg. & Supply Co., Denver, Colo.

Vertical Too

As part of a complete industrial power service, Wagner Motors of various types are furnished in vertical design with a variety of mountings to suit many special conditions of applications. Power satisfaction comes from fitting the motor to the job and that is why Wagner makes every commercial type of alternating-current motor.

Wagner, Quality

In the Wagner line there is a Motor that fits your job both electrically and mechanically. Consult our engineers.

Literature on Request

WAGNER ELECTRIC CORPORATION

6400 Plymouth Ave., St. Louis

Sales and Service in 25 Principal Cities

PRODUCTS . . . FANS . . . DESK . . . WALL . . . CEILING
TRANSFORMERS . . . POWER . . . DISTRIBUTION . . . INSTRUMENT
MOTORS . . . SINGLE-PHASE . . . POLYPHASE . . . DIRECT CURRENT

61-7632-1

99.9%

Non-Inflammable Non-Explosive

This Dow solvent, cleaner and degreasing agent, when mixed in proper proportions with inflammable solvents such as naptha, gasoline and benzene, renders them non-inflammable. It provides a safety factor against fire wherever inflammable solvents are used. ¶ In addition to reducing the fire hazard, Dow Carbon Tetrachloride has several distinct properties which make its use particularly advantageous in the commercial dry-cleaning industry and kindred lines. It cleans the most delicate fabrics without damage and evaporates without residue odor. Does not separate on fractional distillation but may be redistilled and used over and over. ¶ Use Dow Carbon Tetrachloride wherever dependability, purity, fire safety, and prompt deliveries are essential.

Dow Caustic Soda

Manufactured in flake, solid and liquid forms, this Dow product is widely used in the refining of petroleum, mineral oils, vegetable oils and fats. Produced under Dow high quality standards which assure cleanliness, uniformity and a reliable source of supply.

Dow Calcium Chloride

Effective in the process of dehydrating petroleum distillates before refining. Manufactured in flake, solid, powder and liquid forms. Flake and solid forms give a solution practically free from sediment. Efficient manufacturing methods and large production insure prompt delivery.

Let us quote on your requirements of the above products. We will be glad to send you complete information and prices.

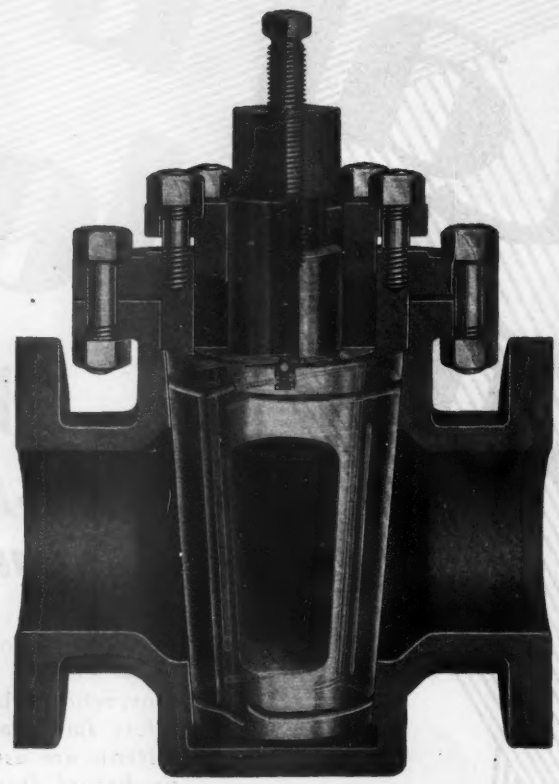
THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

It's important to select the right

VALVES

Note the construction of Barco Plug Valves

Completely lubricated without waste. Use a lubricant on wearing surfaces only. May be repacked under line pressure without danger.



The finest adjustment is provided without unnecessary friction or extra parts by adjusting the packing gland. Barco Valves are tight without the aid of the lubricant.

Barco Valves don't leak, last long and require little maintenance. Send for catalog.

Barco Manufacturing Company

1801 Winnemac Avenue, Chicago, Illinois

Agents:

Vinson-Canter Co., Tulsa, Oklahoma
M. N. Dannenbaum Co., Houston, Texas
The Steam Supply & Rubber Co., Seattle, Washington
Greene Brothers, Wichita Falls, Texas
Herbert Wolcott, El Paso, Texas

BARCO

Valves and Joints

O&GJ 10-17 Gray

A Letter From Harry G. Nye

TO THE OIL MEN OF THE U. S. A.

"One Game Where We Both Win"

FELLOW CITIZENS:

I want to issue a word of warning to my friends in the trade. It isn't against someone passing bad checks, or raising funds to free a Spanish prisoner, or someone selling a hunk of gold-plated lead, or penny stocks, or dog-races. It's worse than that.

The other night a friend of mine (once) invited me over to his house to play a little game of poker. Now, poker is all right, sometimes, but when they say "little", look out. Before long the roof will be off, and not a cloud in sight.

So I said, "No, not me. I've played all my poker, and got it all paid for now, and I'm through. I couldn't draw a full house any more than a clean show on Broadway, and my flushes looked like the Belgian flag. I'm through, also finished."

"Ah," said my friend (ex) brightly, "then this ought to be pie for you! We're going to play lowball." "What's lowball?" "The low hand wins." "Lead me to it!" says I. "Here's where I get my money back!" Well, brothers, you know what happened.

If they had ever run for me like that in an honest poker game, instead of selling Nye Tools I'd be giving them away. (I practically do now.) I held a four and made four queens. Once I had a hand without a pair, seven high, and bet $1.35. I hadn't noticed that the low card was a trey.

Well, as usual, along at the end one of these smart alecks suggested that we draw to the last hand face down. All I had was four aces to start with. Then I pulled a swift one. I knew if I discarded three of the aces I couldn't catch another. So I held one and said, "Gimme four cards."

As agreed, we played that last hand sight unseen. Well, fellows, I have never made a hole in one. But I can say this: I've made a royal flush on a four-card draw. And, by the way, if you have been thinking of ordering some Nye Tools, there never was a better time. I need the money.

That is one game where we both win. You get the easiest working, fastest cutting, longest lasting pipe tools on earth, and I get the money to make more of the longest lasting, fastest cutting, easiest working pipe tools on earth.

Hopefully yours,

HARRY G. NYE.

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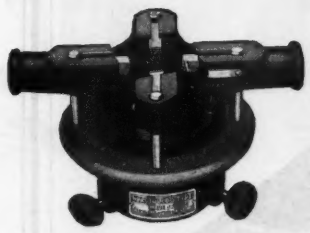
HARRY G. NYE
All Rights Reserved

Otherwise Known as

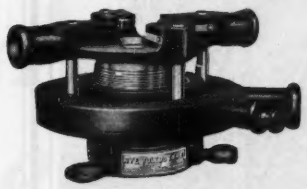
THE NYE TOOL & MACHINE WORKS
4120-30 Fullerton Ave., Chicago, Ill.



Nye No. 1 (Toledo Type) Stock

The rugged construction and few working parts account for the simplicity and durability of these Nye Receding models. They do the work easily and efficiently.

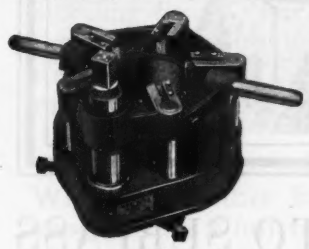
No. 1 Nye Receding Pipe Threader, complete .....$9.60 net
West of Rocky Mountains $10.80



Nye No. 1A (Toledo Type) Stock

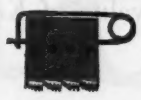
The No. 1A is the same as the No. 1 except that it is equipped with a ratchet for work where space is restricted.

No. 1A Nye Receding Pipe Threader, complete .....$12.00 net
West of Rocky Mountains $13.50



Nye No. 2 (Toledo Type) Geared Threading Device Improved

Capacity 2½ in. to 4 in. inclusive.
Net price complete $50.00
West of Rocky Mountains 55.00
FREE TRIAL—ABSOLUTELY GUARANTEED



Nye (Toledo Type) Chasers Fit Nos. 1, 1A and 2 Nye (Toledo Type) Stocks

Each set is guaranteed in every particular. Will cut much easier than other similar dies.

No. 1, 1" to 1¼" .....$ .75 per set net
No. 1, 2" ..... 1.25 per set net
No 2. 2¼" to 4" ..... 3.60 per set net
West of Rockies 5% additional

Nye Three-Wheel Pipe Cutter Barnes Type

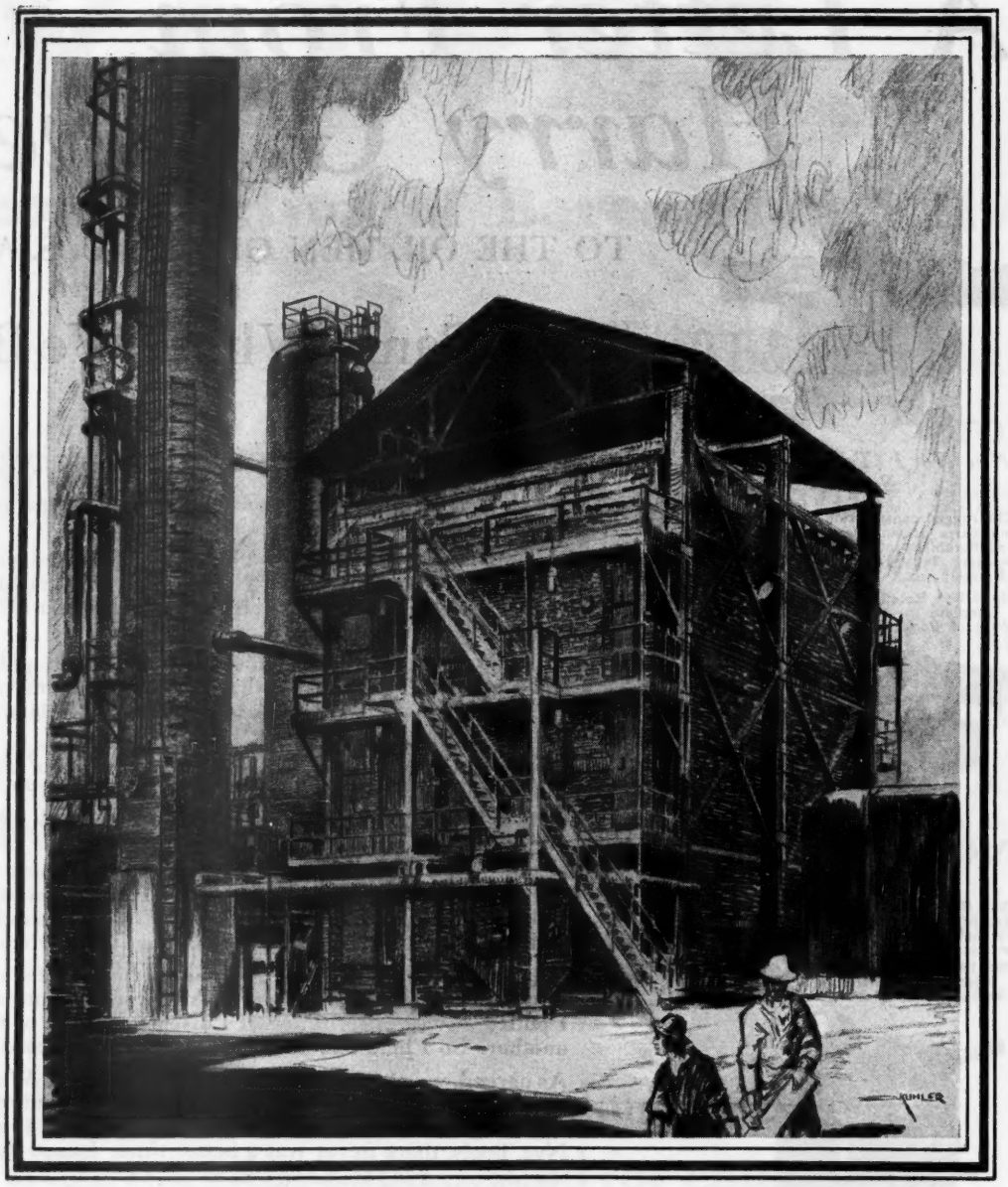
Equipped with Three Nye Knurled Cutter Wheels

No. 1 .....$ 2.48 net
No. 2 ..... 3.30 net
No. 3 ..... 5.50 net
No. 4 ..... 11.00 net
No. 5 ..... 16.50 net
No. 6 ..... 22.00 net
West of Rockies 5% additional

Nye Saunders Pattern Pipe Cutter

The Nye Saunders type pipe cutter is equipped with Nye knurled wheels. All parts are interchangeable.

No. 1 .....$ 2.00 net
No. 2 ..... 3.00 net
No. 3 ..... 7.33 net
No. 4 ..... 12.00 net
No. 5 ..... 18.67 net
West of Rockies 5% additional



Kellogg REFINERIES ARE KNOWN TO SURPASS THE DEMANDED MEASURE OF PERFORMANCE

Constant building and operating of plants has enabled Kellogg to develop refining equipment of exceptional performance. Each succeeding year enlarges the field of this complete service, and adds to the practical value of Kellogg equipment and construction.

The M. W. KELLOGG COMPANY

225 Broadway, New York

HOUSTON, TEXAS, 1514 PETROLEUM BLDG. LOS ANGELES, CAL., 1031 SO. BROADWAY TULSA, OKLA., PHILTOWER BLDG.

GAGE REPORTS SHOW *the loss due to evaporation*

Gaged every day, tanks with ordinary "gas-tight" roofs may show slight losses, but over a period of months the losses add up to a startling figure. For example, a cone-roofed tank storing 55,000 bbls. of average Mid-Continent crude loses 235 to 285 bbls. by evaporation in 6 months.

This loss is practically eliminated by the Wiggins Breather Roof, which permits oil vapor inside a full tank to expand and contract with variations of temperature without escaping to the outside. The saving thus made possible pays for the roof in 12 to 18 months. In addition, the lowering of gravity of the oil left in the tank is prevented. This lowering of gravity occurs because the escaping vapor carries away the lightest and most valuable fractions.

On working tanks, Wiggins Floating Roofs are equally efficient. And both types of roof eliminate fire hazard. Flames or lightning cannot ignite the oil protected by them.

Ask our nearest office for data on fire and evaporation prevention for all sizes of tanks.

STOP EVAPORATION LOSSES

with WIGGINS BREATHER ROOFS

CHICAGO BRIDGE AND IRON WORKS

Dallas ..... 3341 Magnolia Bldg.
New York ..... 3147 Hudson Terminal
Cleveland ..... 2204 Union Trust Bldg.
Chicago ..... 2128 Old Colony Bldg.
Boston ..... 1517 Consolidated Gas Bldg.
Detroit ..... 1514 Lafayette Bldg.
Philadelphia ..... 1615 Jefferson Bldg.
San Francisco ..... 1054 Rialto Bldg.
Havana, Cuba ..... Apartado 2507

OGJ 10-17 Gray

Crane equipment for oil and gas pipe lines

No. 760-D

One of a group of cast steel screwed fittings with long thread lengths. Tested at 800 pounds hydraulic pressure. This pattern is made for casting in steel and should not be compared with cast steel fittings made from ordinary cast iron patterns. See Circular No. 218, page 54.

No. 260-D

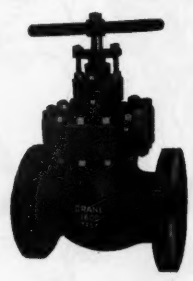
One of a group of cast steel fittings for oil vapor pressures up to 550 pounds, temperatures to 900° F., and cold oil, gas and water working pressures up to 2000 pounds. See Circular No. 218, page 54.

No. 754

Double disc gate valve, 700 pounds test. Discs are guided accurately in the body. Ferrosteel body and bonnet. Stems are of Crane stem metal, high grade manganese bronze of over 50,000 pounds tensile strength. Body rings are of Crane Steam Brass. See Circular No. 218, page 10.

No. 343-E

Double disc gate valve, ferrosteel 1000 pounds test. Discs are accurately guided in the body. Inside wedging mechanism is brass to iron. Accurate machining reduces friction in all sliding parts. Supplied with screwed or flanged ends, in outside screw and yoke or non-rising stem patterns. See Circular No. 218, page 13.

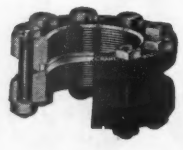


No. 215-H

Double disc gate valve, 1600 pound test, for oil, gas or water. Ferrosteel body, bonnet and discs. Discs are guided accurately in the body. Screwed end valves are lipped for lead. Outside screw and yoke or non-rising stem patterns can be supplied. See Circular No. 218, page 14.

No. 266-E

Heavy pattern malleable iron cross fitting, made in ¼-inch to 16-inch sizes. Particularly adapted for exacting requirements of the oil industry. Long thread lengths and heavier bands than commercial fittings. For use on high pressure cold oil, gas and water lines. See Circular No. 218, page 46.

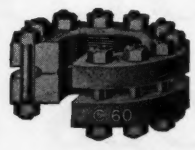


No. 245-H

Heavy pattern malleable iron flange union for oil working pressures up to 800 pounds. For use on high pressure cold oil, gas and water lines. Ground-joint seat and exceptionally long threads. See Circular No. 218, page 69.

No. 247-H

Ferrosteel hydraulic flange union; tongue and groove. Good for cold oil, gas or water pressures up to 1000 pounds. Suitable sizes for all oil, gas and water purposes. Gasket is extra with this type. See Circular No. 218, page 75.



No. 830-D

All steel ground joint flange union for hot oil working pressures up to 600 pounds and temperatures to 750° F.; 550 pounds at 900°; cold water, oil or gas working pressures to 1000 pounds. Available is sizes from 1¼-inch to 12-inch inclusive. See Circular No. 218, page 71.

Cast steel distributing header

Manifold headers will be made to your order with any number of outlets, according to your special requirements. The fitting illustrated here is supplied in cast steel, ferrosteel, or cast iron, with either flanged or screwed ends. Write for information.

Learn more about these materials backed by 74 YEARS OF EXPERIENCE. Write for circular No. 218; It is a catalogue covering the particular division of the oil industry in which you are interested.

CRANE

GENERAL OFFICES: CRANE BUILDING, 836 S. MICHIGAN AVENUE, CHICAGO

NEW YORK OFFICE: 23 W. 44TH STREET

Branches and Sales Offices in One Hundred and Eighty Cities

SPECIFY GOODRICH ON YOUR NEXT TRUCK

When you have learned to appreciate the uninterrupted service value of Goodrich Heavy Duty Silvertowns you have learned just *one* of the reasons why you should specify them.

Note the thick shoulder-to-shoulder tread rubber right WHERE the Goodrich Heavy Duty Silvertown STRIKES the road

Rubber where the Tire *Needs* it most!

THICK, tough rubber! "Water cured" right on down through stretch-matched cords to the *innermost* ply.

That's the way the Goodrich Heavy Duty Silvertown Tire is made! That's the BIG reason *why* Goodrich Heavy Duty Silvertowns outlast other tires on a mileage basis.

Rubber *where the tire needs it most* is just another way of summing up the seven specific reasons—the seven superior specifications — that make Goodrich Tires give truck and bus operators longer *uninterrupted* service, greater *trouble-free* mileage!

When it comes down to a question of service and *mileage*, Goodrich Heavy Duty Silvertowns are your very *best* buy.

* * *

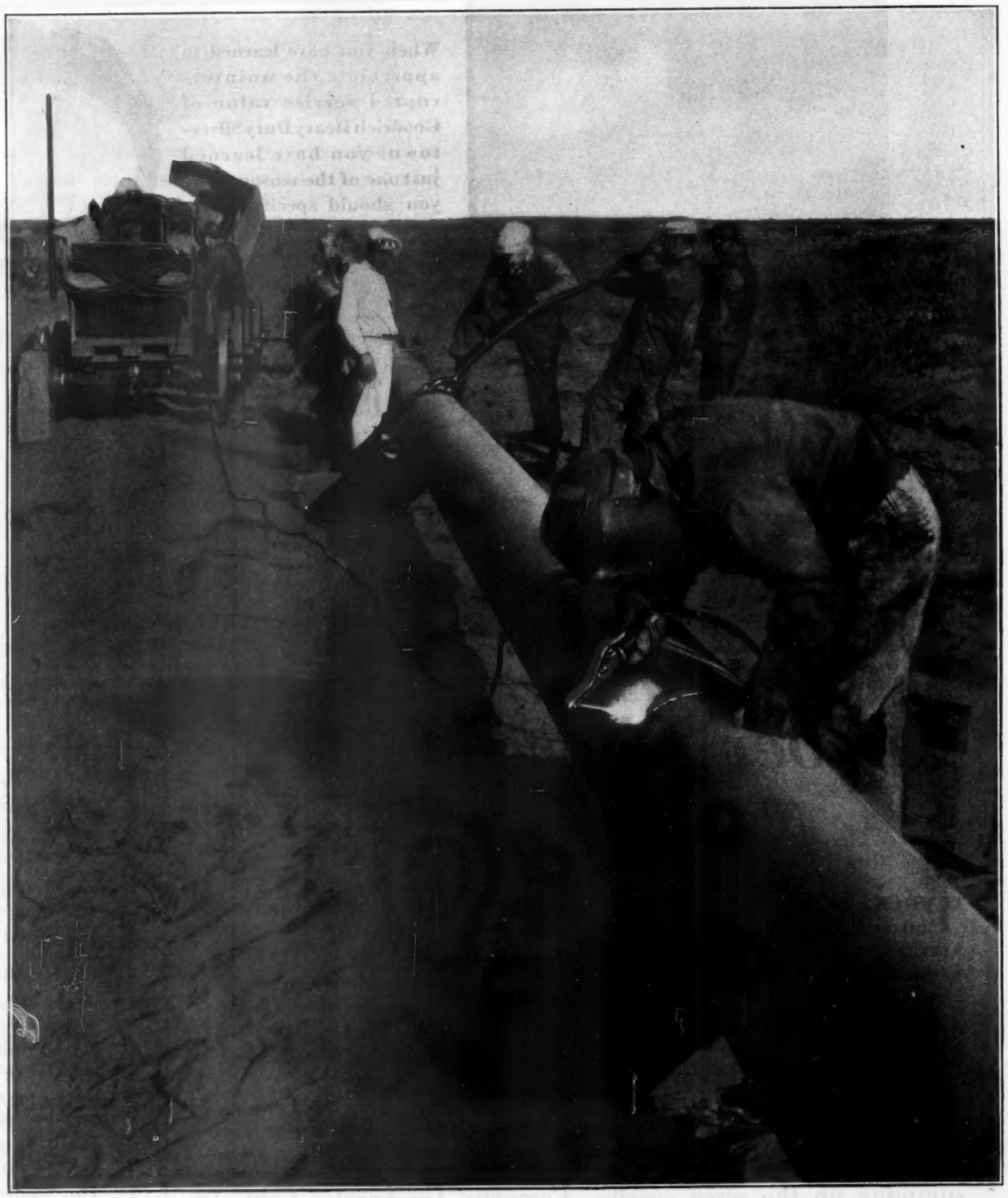
The B. F. Goodrich Rubber Company, Established 1870, Akron, Ohio. Pacific Goodrich Rubber Company, Los Angeles, Calif. In Canada: Canadian Goodrich Company, Kitchener, Ontario.

Seven
Superior Specifications
Built Into Every Heavy Duty Silvertown

1. Heavily insulated stretch-*matched* cords.
2. Additional *adhesion*—from greater insulation between outside plies.
3. Heavy *twin* beads for better rim seating.
4. Extra gum *fillers* between plies for longer tire life.
5. Heat-*resisting*, interlocking cord *breakers*.
6. Tread designed *correctly* for heavy duty service.
7. The whole tire toughened by the famous Goodrich "*water cure*."

Goodrich HEAVY DUTY Silvertowns

NO LEAKS •



NO BREAKS

The following is an extract from a telegram sent to White, Weld and Company, of New York, by Mr. H. G. Frost, Vice President of the El Paso Natural Gas Company.

"We completed testing our line four o'clock this morning. Pressure in its entirety is 500 pounds per square inch. No leaks—no breaks. Gas now turned into city mains and will start marketing today. Our line is first class in all its construction, and we think it is one of the best ever built."

This line is 211 miles in length.

It is an all-welded line.

It is built with SMITHWelded Gas Line Pipe, with SMITHWelded Bell and Spigot and SMITHWelded Expansion Joints.

A. O. SMITH CORPORATION

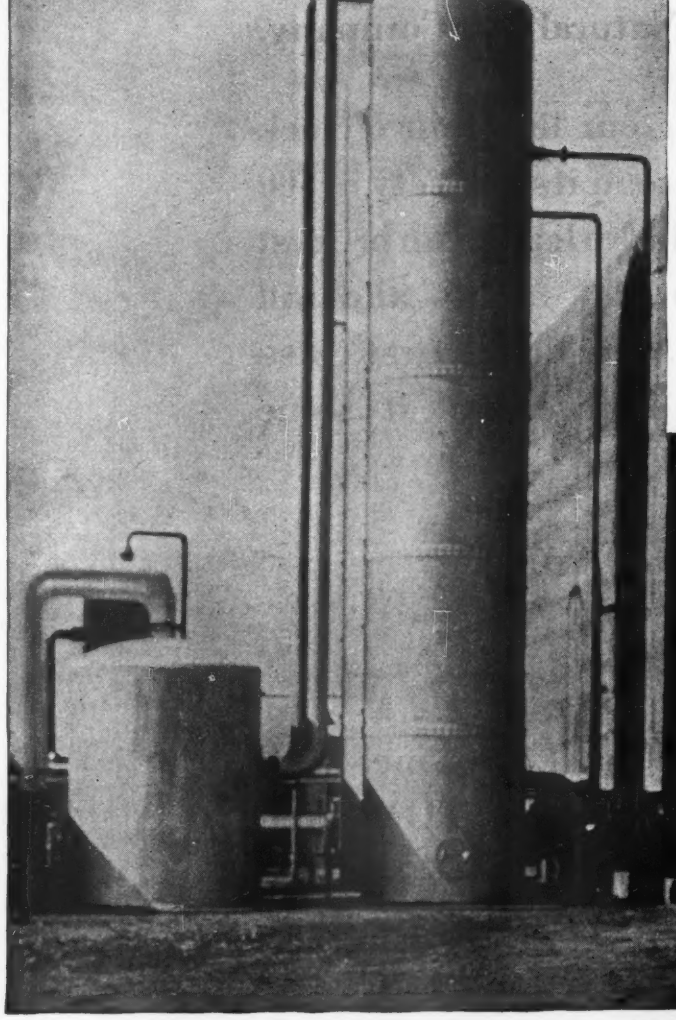
Oil and Gas Field Products Division

General Offices: MILWAUKEE, WISCONSIN

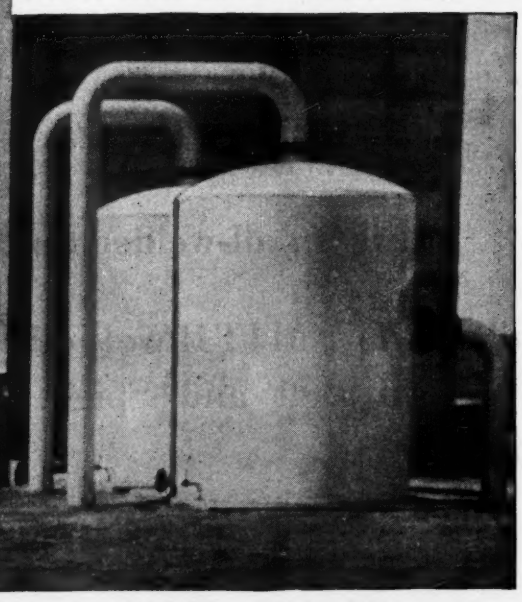
District Offices at: New York • Tulsa • Houston • Los Angeles

SMITH*WELDED*
LINE PIPE

. . . Erect Pipe *this* Modern Way



THIS bubble tower installation fitted with Tube-Turns *represents the most advanced practice in pipe fabrication. . .* Welding produces what has thus far proven to be the only *permanently tight joint. . .* Tube-Turns are *stock fittings* specially designed for the welded job. They provide strength at all temperatures and pressures *equal to the piping with which they are used.* Their smooth inner walls offer minimum resistance to flow on short radius turns. . . As Tube-Turns can be cut on the job to any desired angle, a small stock will provide any change in direction, saving the time and expense of making hot or cold bends in the field. TUBE-TURNS, *Incorporated,* 1252 Logan St., Louisville, Ky. 110 S. Dearborn St., *Chicago;* 30 Church St., *New York;* Bourse Bldg., *Philadelphia.*

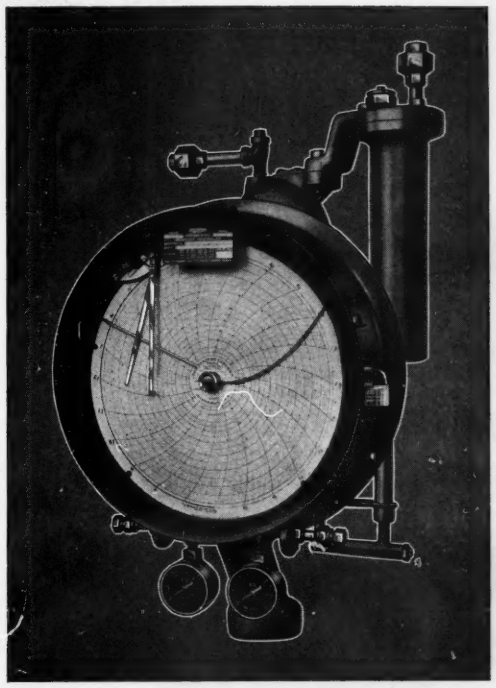


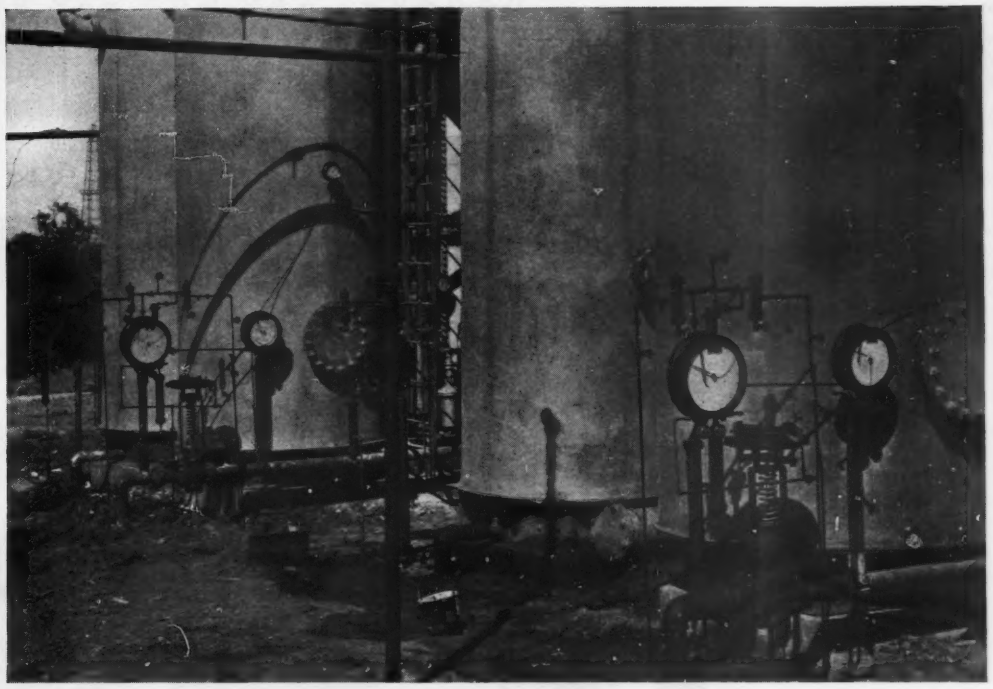
TUBE-TURNS

NO BUCKLING OF INSIDE WALL — NO THINNING OF OUTSIDE WALL

Distributors

Baltimore, The Heat and Power Corp.
Los Angeles, Buck and Stoddard
Houston, Maintenance Engineering Corp.
Tulsa, The Moorlane Company
St. Louis, H. A. Woodworth Engineering Co.
Toledo, Mason Equipment Company
Detroit, C. E. Phillips and Co.





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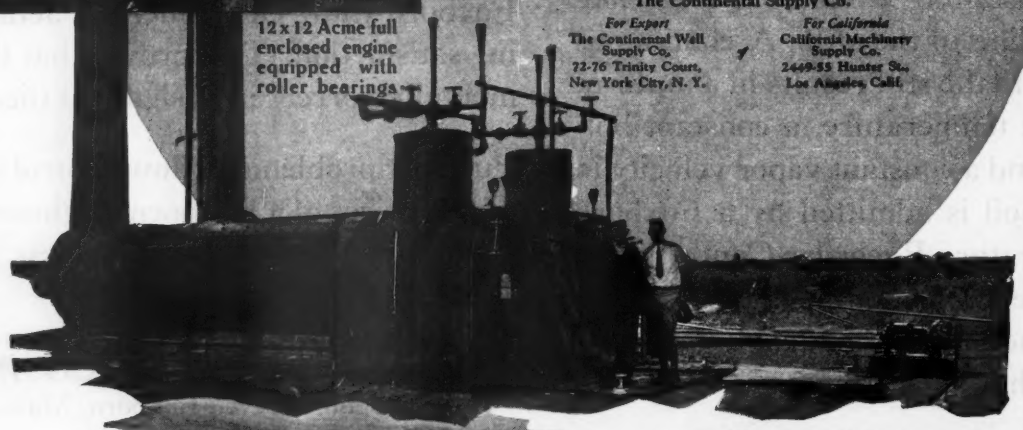

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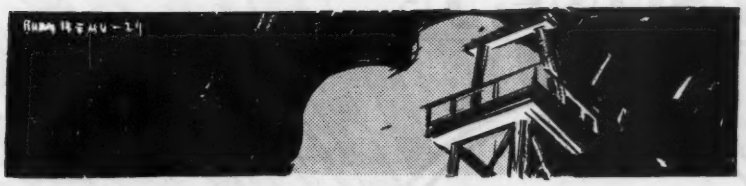

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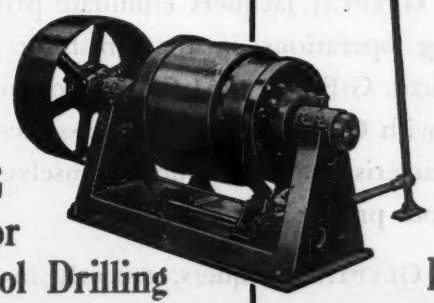

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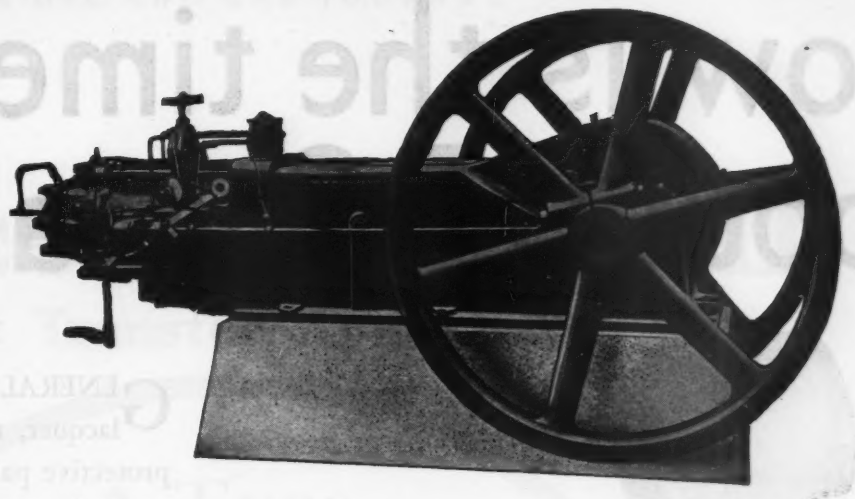

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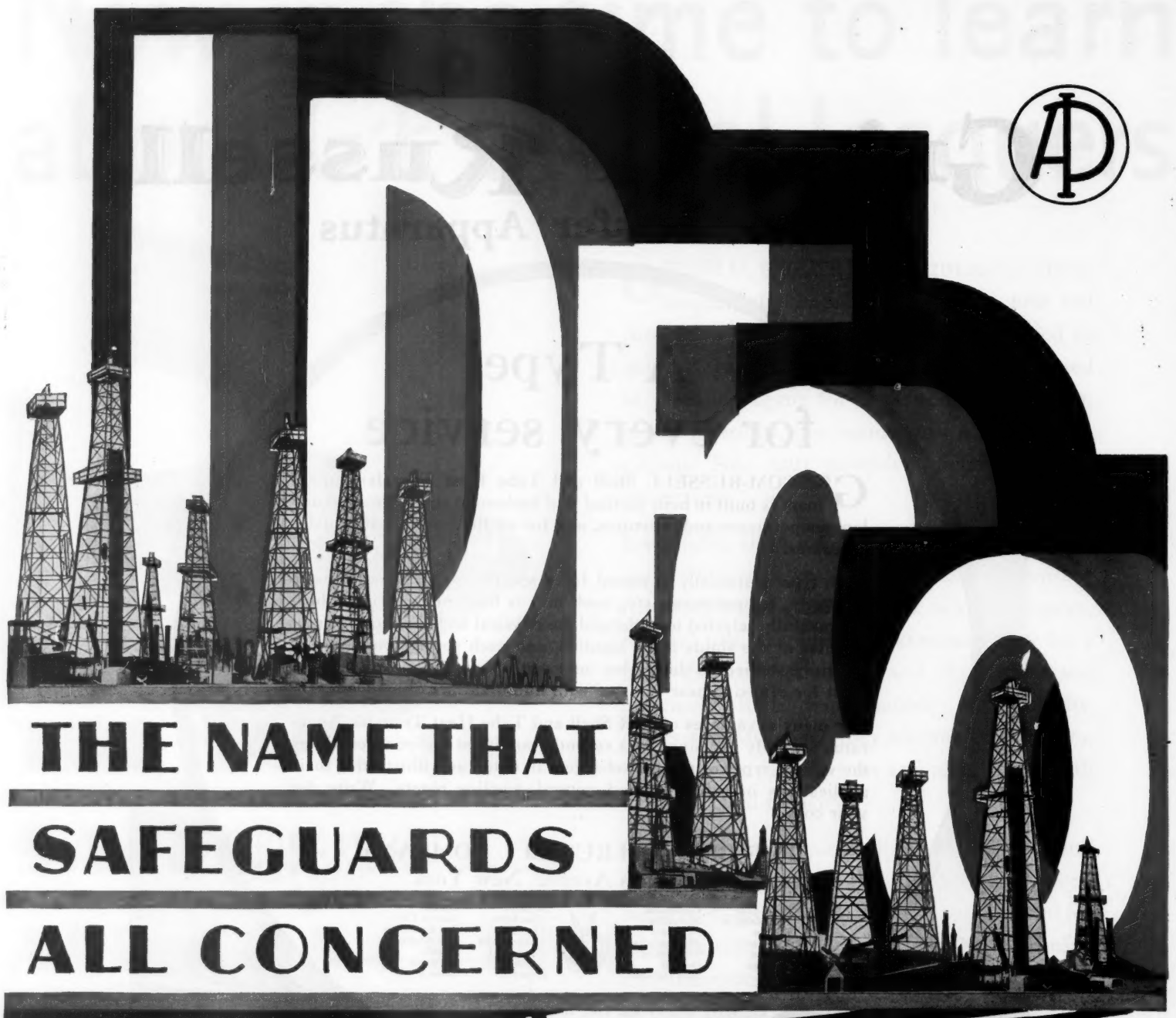

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Refinery Section Starts on Page 124

State Proration in Oklahoma Ordered

Highest daily average estimated total production in 1928, week ended Dec. 29, 2,585,844 bbls. Lowest in 1928, May 19, 2,338,241 bbls.

Action of Corporation Commission and Operators Stabilizes Production During Remainder of Year

By Andrew M. Rowley

Highest daily average estimated light oil production in 1928, week ended Dec. 29, 2,158,134 bbls. Lowest in 1928, Mar. 3, 1,927,713 bbls.

Issuance of an order by the Oklahoma Corporation Commission, effective October 16, providing for curtailment of production in the flush fields of the State in order to hold production of crude oil more nearly to market requirements assures stabilization in the production end of the industry in the Mid-Continent area until January 1 at least. The agreement reached by operators of Oklahoma and sanctioned and officially ordered by the State contemplates keeping production in Oklahoma down to approximately 660,000 barrels daily which is regarded as sufficient for market requirements at this time. The plan will be in effect until the first of next year. Oklahoma City, under a previous agreement, will be permitted to produce to capacity until November 1 at which time it will be included in the order issued by the Corporation Commission.

While the hearing on injunction proceedings in connection with enforcement of the recently enacted natural gas conservation law in California was still being held as this is written, reports from Los Angeles are optimistic regarding a final agreement on points in dispute and it is felt the different companies also will reach an agreement regarding natural gas contracts.

Crude oil production will show a substantial increase next week due to the opening up of the Oklahoma City Pool. That pool produced 72,000 barrels on Tuesday of this week. It averaged less than 1,000 barrels daily last week. This pool will be produced to capacity until November 1 when its output will be curtailed under the order issued this week by the Oklahoma Corporation Commission. Hence, production in Oklahoma will be up for two weeks and then will decline.

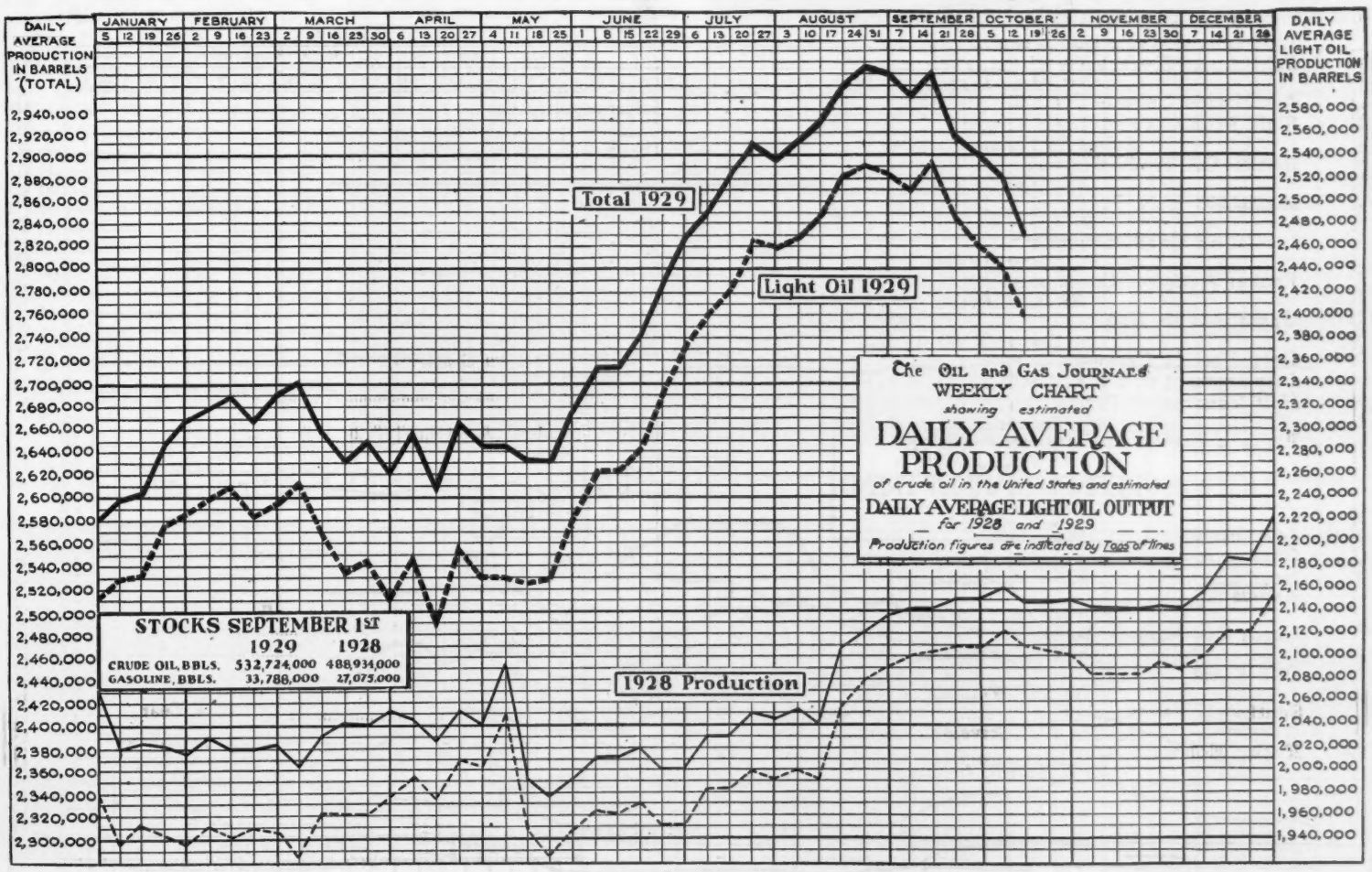
The industry in the Mid-Continent area at least is entering the winter season with exceptionally bright prospects and indications that additions to storage will be held at a lower figure than for years. Holding production to requirements will also eliminate any necessity of a change in the crude oil price structure.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended October 12, and a comparison with the previous week follows:

	Oct. 12		Oct. 5	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahoma City	985	.....	1,035	.....
St. Louis-Pearson	59,640	.....	60,955	.....
Seminole	280,210	.....	284,220	.....
Northern Miscellaneous	252,340	.....	255,645	.....
Southern Fields	57,120	.....	57,290	.....
Total Oklahoma	650,295	.....	659,145	.....
West Texas—				
Hendricks	120,034	.....	121,171	.....
Yates	133,125	.....	137,409	.....
Remainder	113,760	.....	113,389	.....
Total West Texas	366,919	.....	371,972	.....
North Louisiana	35,485	5,715	38,070	5,600
Arkansas	19,040	45,400	19,235	45,730
North Central Texas	149,430	.....	148,708	.....
Texas Panhandle	106,763	.....	116,760	.....
East Central Texas	18,294	.....	17,463	.....
Kansas	112,070	.....	124,345	.....
Total Mid-Continent Area	1,456,296	51,115	1,495,698	51,330
Gulf Coast	.....	166,139	.....	173,224
Southwest Texas	.....	67,273	.....	70,189
Eastern	134,000	.....	135,000	.....
Rocky Mountain Area	76,161	.....	78,107	.....
California—				
Santa Fe Springs	268,000	.....	277,000	.....
Long Beach	170,000	.....	171,000	.....
Huntington Beach	43,500	.....	43,500	.....
Elwood	24,000	.....	22,000	.....
Ventura Avenue	62,500	.....	63,000	.....
Seal Beach	41,000	.....	41,000	.....
Remainder of State	124,000	145,000	115,000	147,000
Total California	733,000	145,000	732,500	147,000
Total United States	2,401,457	429,527	2,441,305	441,736
Grand Total		2,830,984		2,883,041

Total Decrease, 52,057 Bbls.; Light Oil Decrease, 39,848 Bbls.


DAILY AVERAGE PRODUCTION IN BARRELS (TOTAL)
JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER
DAILY AVERAGE LIGHT OIL PRODUCTION IN BARRELS
Total 1929
Light Oil 1929
1928 Production
STOCKS SEPTEMBER 1ST
1929 1928
CRUDE OIL, BBLS. 532,724,000 488,934,000
GASOLINE, BBLS. 33,788,000 27,075,000
The Oil and Gas Journal's WEEKLY CHART showing estimated
DAILY AVERAGE PRODUCTION
of crude oil in the United States and estimated
DAILY AVERAGE LIGHT OIL OUTPUT
for 1928 and 1929
Production figures are indicated by Tops of lines

Several Oklahoma Products Advance

Exporters Continue Active and Eastern Refiners Buy Natural Gasoline. All Grades of Fuels Stronger

By C. O. Willson

Continued buying of high gravity gasolines by exporters and substantial purchases of natural gasoline by eastern refiners, coupled with generally higher quotations for most grades of fuel oil, gas oil and distillates were the bullish developments of the past week in the Oklahoma (Group 3) market.

In addition, the sellers could point to a firmer kerosene market and continued strength in bright stocks and most grades of neutral oils. Last but not least in the case of the few refiners who manufacture the product, wax quotations advanced with still higher prices in prospect.

Two export buyers bought additional quantities of 400, 390 and 375 endpoint material the latter part of last week and there were additional inquiries the first of the week. The export purchases since the first of the month now total around 9,000,000 gallons, not including the shipments made on long-time contracts. Although Oklahoma refiners did not share in the business of the past week, the buying in North Texas served to bring a better feeling although there are yet no general changes in prices.

The situation in the case of U. S. Motor gasoline and other domestic grades has not improved. A price of 7¾ cents, which is largely nominal, is being maintained by several of the larger refiners in their spot sales of U. S. Motor gasoline to the trade. Other spot sales were being made to jobbers as low as 6¾ cents with resale material from one-eighth to one-fourth cent under this price.

Natural Gasoline Purchase

One of the large Standard companies with eastern refineries purchased approximately 3,000,000 gallons of natural gasoline from an Oklahoma manufacturer. This gasoline, for which the current price was paid, is for immediate delivery. It is understood that the seller expects to ship the greater part of the order from accumulated storage. Instead of moving to the Gulf Coast by rail and then by water to the East Coast refinery, the natural gasoline will be shipped entirely by rail, indicating that the purchaser needs the material quickly for blending purchases.

The re-entry of this company as a large purchaser is considered significant by the natural gasoline fraternity. The company has not been a buyer for several years. Previously it was one of the largest consistent purchasers in the Mid-Continent Field. Small purchases were made a few weeks ago and the large order of the past week serves to brighten the outlook for natural gasoline over the remainder of the month at least.

A large eastern refiner through a Mid-Continent subsidiary also made purchases of natural gasoline for immediate shipment to its eastern refinery. Another Atlantic seaboard refiner was seeking approximately 500,000 gallons and other inquiries were reported by sellers.

Purchases of natural gasoline from the usual sources were steady so that the additional business strengthened the market with slight increases in prices. The going market on the A and AA grades on Tuesday was 6½ to 6⅝ cents and for the remaining grades 6⅜ to 6½ cents. The Grade BB was in demand and difficult to obtain at the prevailing market.

Contract Situation

Sellers of natural gasoline have been facing a somewhat mixed situation. Production in the Mid-Continent has shown a steady increase, the new plants in the Texas Panhandle having added materially to the quantity of material available. Several of the sellers have been faced with the problem of renewing contracts with refiners and other contracts will expire at the end of the year. The buyers in many cases have not been satisfied with the practice of basing contracts on published quotations and are asking that new agreements be based on agreed price relationship with U. S. Motor gasoline.

This gets back to the mossback question of "how much is natural gasoline worth to the refiner," a matter which has never been settled to the satisfaction of either the buyer or the seller. Some of the buyers feel that over the past year they have been penalized in their purchases because they have paid more than the prevailing market for U. S.

(Continued on Page 146)

REFINED MARKET BAROMETER

Although developments were not uniform in the several refining areas of the United States, the price trends were generally upward with the exception of refinery gasolines which continue weak in all sections. The California gasoline price for export and coastwise movement has been reduced and natural gasoline prices are also lower. In contrast, the eastern demand for natural gasolines has improved and Mid-Continent prices were firm the first of the week. Continued declines in tank wagon prices are a disturbing factor in the refinery tank car market for gasolines. Kerosenes were more active in the eastern states with no changes reported in other areas. Fuel oil, including distillate and gas oil, is generally strong and prices advanced in several areas. The demand for these products has shown a substantial gain since the first of the month. Lubricating oils and stocks made from paraffin and mixed base crude oils are generally stronger than the asphaltic base oils. The paraffin wax is stronger with higher prices in the Mid-Continent and Pennsylvania.

Mid-Continent—No important changes in refinery gasoline. Exporters buying additional quantities of high gravity gasoline. Domestic gasoline market dull. Kerosene unchanged. All products used as fuel oil strong and prices higher in some areas. Large purchases of natural gasoline by eastern refiners with more inquiries from other areas aids market. Lubricants strong. Wax prices higher.

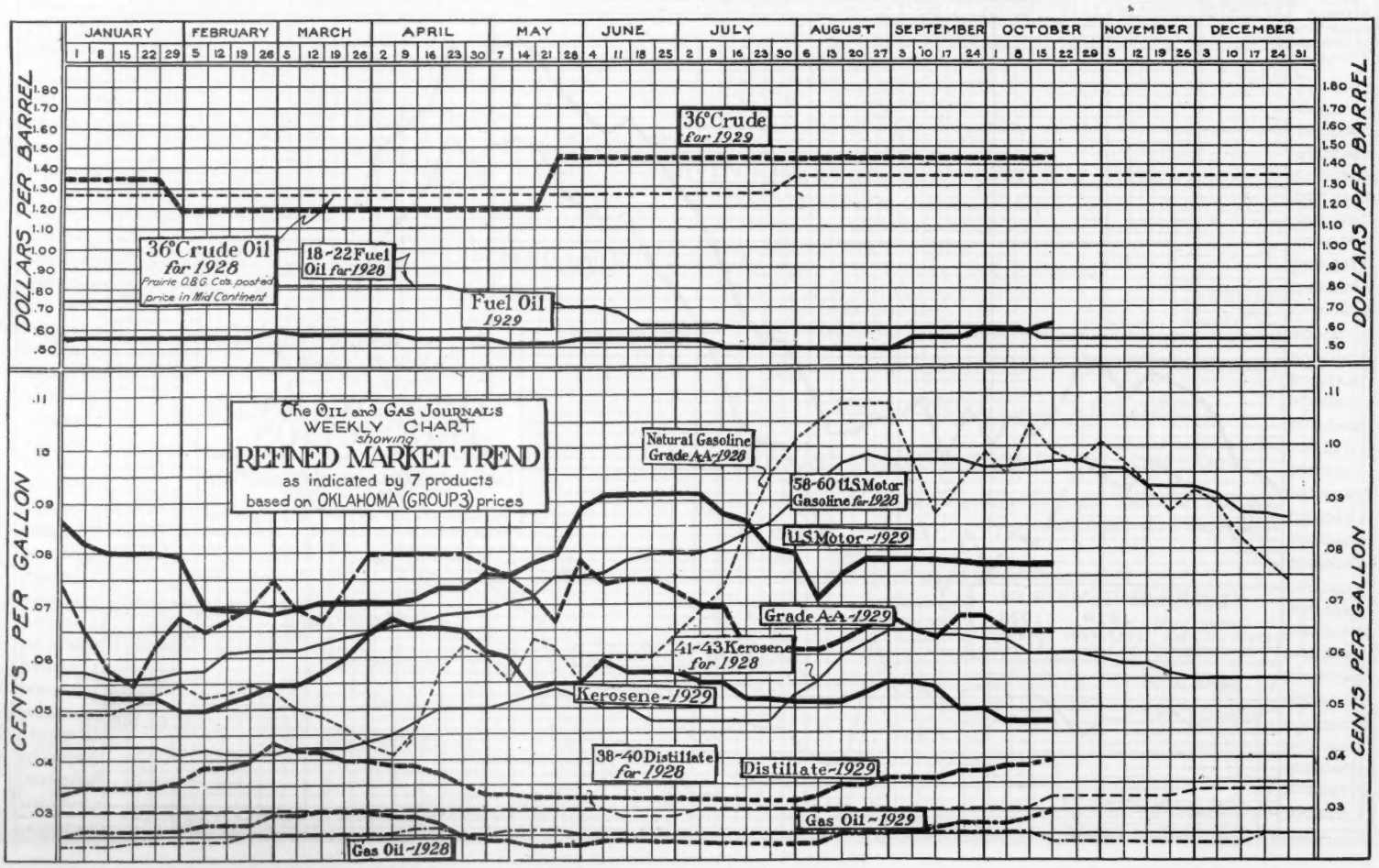
East Coast—Tank wagon price reductions disturb gasoline market. Marked increase in demand for kerosene. Wax firm. Diesel oil demand steady. Better undertone in bunker oil market as demand increases.

Pennsylvania—Gasoline slow and prices unchanged. Kerosene and fuel oil active and prices higher. All grades of neutral oils and bright stocks steady.

California—Refinery gasoline prices for export movement lower. Natural gasoline prices lower. Prices reduced on some grades of distillates. Other products unchanged.

Chicago—Gasolines continue sluggish despite favorable weather pointing to heavy consumption. Kerosene movement slow. Furnace oil distillates more freely offered. Fuel oil prices strong. Gas oil prices higher.

Gulf Coast—Neutral oil movement slow. Fuel and gas oil firm.



Sour Lake Cave-in Arouses Curiosity

No Important Property or Production Yet Affected Materially. Crater 800 Feet Across and 75 to 90 Feet Deep Formed Suddenly

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Oct. 14.—The cave-in of a large area on the northeast side of the old cap rock section of the Sour Lake Field, Hardin County, with the continued settling and collapsing of the surface on all sides of the main crater is a phenomenon which has caused considerable interest and curiosity among Gulf Coast geologists and oil operators. With a crater estimated at from 600 to 800 feet across and from 75 to 90 feet deep from the surface level to the level of the lake formed at the bottom, and with the ground around sinking and crevasses noted as far as several thousand feet distant much speculation naturally has arisen as to the extent of the field eventually to be affected.

So far no important property or production loss has been suffered. The section which has collapsed is in what is known as the "Shoestring" district, the oldest part of the field, and in that area particularly affected so far there were no producing wells although in the early days, dating from 1905, some of the biggest gushers of Sour Lake were brought in there. Several old stock tanks, an abandoned light rig or two have gone down in the sink, two pipe lines, which crossed where the crater now is, snapped and several small pumpers in the vicinity have gone dead and have been abandoned; but outside of this the field is about as usual except for the possibility of the crater widening and engulfing producing wells and other property which lie on the brink of the chasm. One of the pipe lines which broke was a small field line of the Gulf Pipe Line Co. and the other was the 6-inch of the Rio Bravo Oil Co. extending from the Saratoga Field. The oil in each was cut off before the line broke.

Sinking Slackening

Over the week-end the sinking slackened noticeably, but several operators were apprehensive lest this was just a lull preceding another big collapse. The Texas Pipe Line Co., which has two 55,000-bbl. tanks on one side of the crater, has been pumping the oil from these tanks into other tanks of its farm, which although close to the area is not considered in danger. Several smaller operators having near-by wells, pump houses or equipment, are moving some of their machinery to safer ground.

Numerous theories are being advanced by geologists as to the possible causes of the collapse and the continued settling. Other fields on the coast have been known to settle and the cause of each has been determined, but the collapse at Sour Lake has been entirely different from the others and under such circumstances as to puzzle geologists.

However, the most commonly advanced theory is that water has been getting into the salt under the cap rock through abandoned wells or leaky casing jobs and in the period of years of drainage has taken out in solution enough salt to form a mammoth cavity under the cap. The cap rock in that area is very thin. Operators have had to drill only about 6 inches into it to tap the honeycomb cap from which is obtained the oil. This thin cap being unable to withstand the weight of the upper formations is believed to have collapsed, causing the present phenomenon. The cap rock and dome at that place is at a comparatively shallow depth, ranging around 600 to 800 feet which probably contributed to the cave-in, which may have been hastened by shots of seismograph crews.

Most Logical Explanation

This explanation seems to be the most logical due to the suddenness of the sinking of the crater and its depth. The withdrawal of large quantities of oil, which has been done at Sour Lake, and shifting sands above the cap rock might result in settling of the surface level but, in the case of the removal of oil, salt water usually comes in to occupy the space formerly held by the oil, thus sustaining the pressure.

It is likely, however, that considerable sand has been removed in the past from the strata above the cap by gushers leaving cavities and possibilities of shifting sands. As previously stated, some of Sour Lake's biggest wells were located in that particular area affected by the cave-in. Some of these wells flowed as high as 12,000 to 14,000 bbls. daily for long periods and with these large flows naturally came much sand. Several bad blowouts also occurred in wells in this particular spot which in all likelihood left sizable cavities.

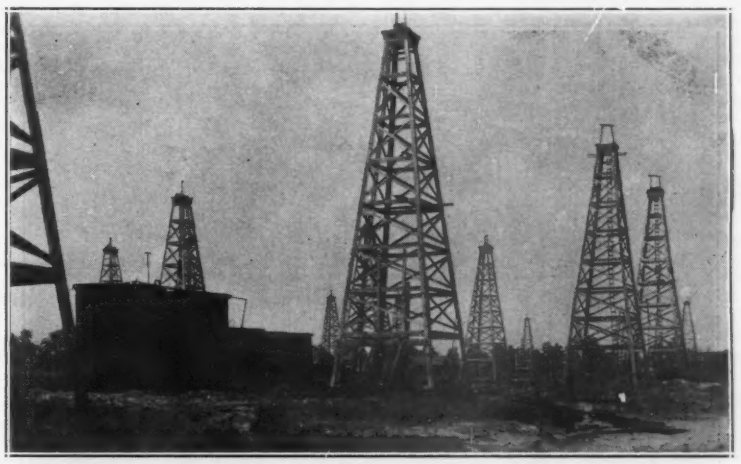
The sinking of Gaillard Peninsula at Goose Creek is one of the other notable instances of field settling on the Gulf Coast, but that occurred under greatly different conditions than the sudden cave-in at Sour Lake. The Goose Creek curiosity has been attributed entirely to the withdrawal of a large volume of oil from the underlying sands with the failure of salt water to come in to fill the space. The sinking of Gaillard Peninsula has been gradual and over a period of years but the peninsula, which before 1918 was well above San Jacinto Bay, now is entirely under the water's level at a minimum depth of a foot.

In this connection it is interesting to recall that the sinking of Gaillard Peninsula was the basis of a number of law suits against several oil companies in which the State of Texas attempted to prove that the submerged peninsula belonged to the State, there being a law that all land which is covered at high tide is the State's property. Testimony of authorities at the trials proved conclusively that the sinking was due entirely to the withdrawal of oil from beneath the surface.

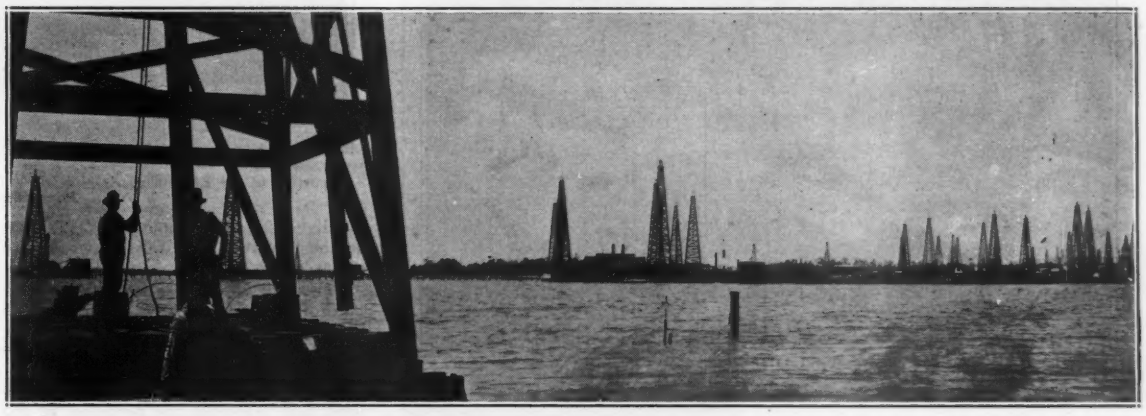
Sulphur Dome Case

At Sulphur Dome, Calcasieu Parish, Louisiana, Bryan Mound, Brazoria County, and Gulf, Matagorda County, there has been very noticeable settling of the surface but in these cases the sinking

(Continued on Page 146)



Section of Sour Lake shallow field dangerously near the brink of the cave-in.



Gaillard Peninsula (on far side of water) at Goose Creek as it appeared before it sank below the surface of the water of San Jacinto Bay. The peninsula now is a foot under water. The picture was taken in the early days of Goose Creek.

General view of crater formed by cave-in at Sour Lake Field.

Scientific Display Creates Interest

The Equipment in Scientific and Technical Department at International Petroleum Exposition Well Received by Engineers

By L. G. E. Bignell
Petroleum Engineering Editor

The Sixth Annual International Petroleum Exposition held in Tulsa, October 5 to 12, inclusive, was pronounced a great success by all who visited it and has become so firmly established as an integral part of the industry that the managers are planning further expansion next year to facilitate handling the increasing number of exhibits.

Preceding the opening of the Exposition the Petroleum Division of the American Institute of Mining and Metallurgical Engineers held a two-days' session in Tulsa and this was followed by a two-days' meeting of the Division of Development and Production Engineering of the American Petroleum Institute with several other gatherings of the technical men and engineers during the week.

These meetings have become a part of the International Petroleum Exposition and to make this exposition of even more attraction to the engineer the management has set aside one large building for scientific and technical apparatus. This department is in charge of a committee made up of engineers and headed by Charles V. Millikan of the Amerada Petroleum Corp.

In as much as the discussion of straight hole drilling practice and weighing of pumping wells has been quite lively during the past year Mr. Millikan set aside four booths this year for the exhibition of equipment designed to survey wells and weigh the pumping loads along with other equipment used in the laboratory and field for various purposes.

The engineer and scientist has long dreamed of using the principle of the gyroscope in connection with surveying apparatus for determining the direction of the drilled hole into the earth's surface and a machine based upon this principle was exhibited in this booth.

This apparatus is the result of the cooperation of the Sperry Gyroscope Co. and the engineers of the Sun Oil Co. of Dallas, and is sponsored by J. Edgar Pew and embodies equipment that will give not only the degree of verticality of the hole but will also show the direction in which the hole is inclined.

Description of Apparatus

The small gyroscope used in this instrument is set in a steel case that is about one-half inch thick and 39 feet long and 5½ inches in diameter and weighs, completely assembled, about 1,800 pounds.

There are 21 dry cells in this case that operate the small motor that drives the gyroscope rotor up to a speed of 14,000 revolutions per minute, and 17 other dry cells that furnish the power for the light that is used in connection with the camera enclosed in the case above the gyroscope dial.

The gyroscope pointer or needle is oriented to the north or to any other desired direction when the instrument is at the surface and this needle being nonmagnetic is not affected by magnetic currents or fields so if it is jarred out of or drifts from the position in which it has been set due to improper balancing while the instrument is being run into the hole the operator will know that the change has taken place when the case is opened for inspection at the end of the survey. The type of gyroscope differs from the regular type of gyroscope in that it is not a north seeking compass as used in marine and aviation work.

This method of setting the needle is made possible by that peculiarity of the gyroscope which on account of the resistance it offers to a change in the direction of its axis when rotating at high speed permits the operator to set the needle to any direction desired and so long as the speed of the rotor in the gyroscope is maintained this position of the needle will be held.

This north pointing needle is placed below a box bubble level which is made with a concave top and in this way the position of the bubble with respect to the degree line gives angle of inclination. This surface of the dial in the level is made concave because in effect the light is focused upon it, or as seen on the film it is relatively above the eye of the observer.

This same bubble also indicates the azimuth of the hole as recorded on the film by reading the degrees of difference between its position and the position of the needle.

Between the gyroscope needle and the level that indicates the deviation of the hole from the vertical a strip of motion picture film is run so that a double exposure is made each time the light is flashed on. In other words the film is exposed to the north pointing needle below it and the level indicating inclination and azimuth above it at the same time, and when developed and printed gives a definite record of the position of the instrument at the time each exposure was made.

Plot Data on Chart

To establish the position of the instrument at the time the individual exposures of the film were made the instrument in its moisture-proof case is lowered into the hole by a line that is run through a measuring meter and the rate of speed of lowering is checked every 25 feet by the use of a stop watch at the surface, and these depths are recorded against the time. These data are plotted as a time-depth chart.

On the gyroscopic face of the instrument and below the film there is another watch that is running while the test is being made and synchronized with the surface watch and the film records the time each exposure is made so that later by correlating the time checked at the surface with that shown by the watch in the case the position of the instrument at time of exposure may be determined and plotted on map or model.

Each film will make 1,000 exposures and it is proposed to run it during the descent and ascent of the instrument into the hole, so the record made going in is checked by the record made as it is drawn to the surface again. The speed of running the instrument into the hole is from 2 to 3 feet per second and it takes approximately 45 minutes to survey a 4,000-foot hole. The time element can be changed by varying the time of exposure or speed of running the instrument into the hole.

In addition to the gyroscope type of surveying instrument there were four other kinds shown ranging from the case for acid bottles as built by Halliburton Oil Well Cementing Co. of Duncan, Okla., to the more complicated type of instrument designed and exhibited by Cobbs of the Barnsdall Oil Co.

Mr. Cobbs' instrument works on the principle of a free swinging pendulum suspended at the bottom of a brass case and this pendulum is attached to a graduated section of a sphere that is exposed to a film that travels across the case and by means of a light operated with a clock mechanism that is synchronized with a second clock at the surface the film is exposed at intervals of 2 minutes or 1½ minutes, according to whether the outer or inner set of contact points on the dials is used.

The film is moved by a mechanism attached to a set of electromagnets and these magnets are charged at intervals by the current that passes through the control dials at the surface and in the case in the hole. It requires a current of 18 volts to operate the lights and one of 12 volts to charge the magnets and the

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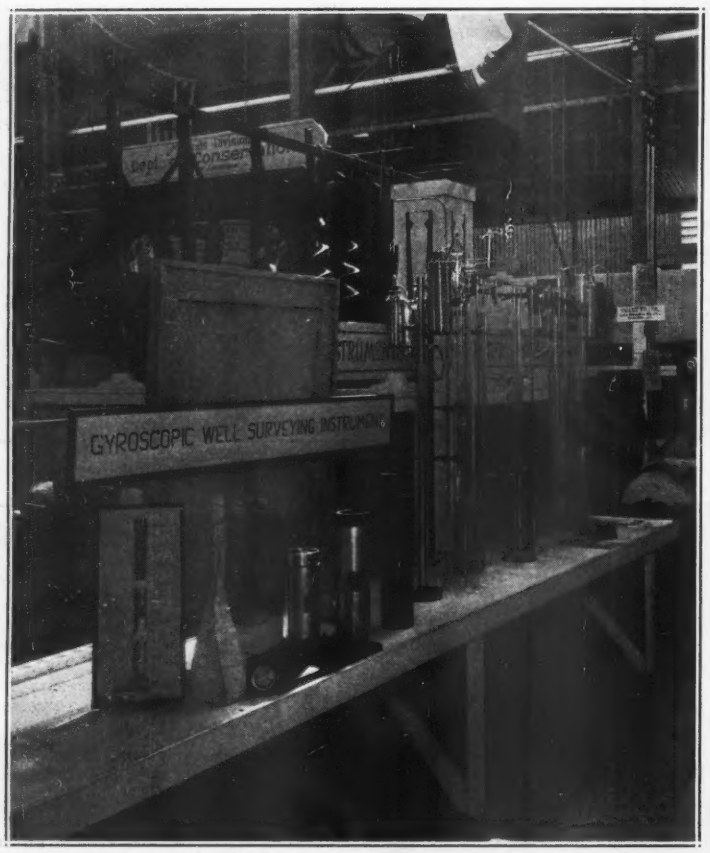
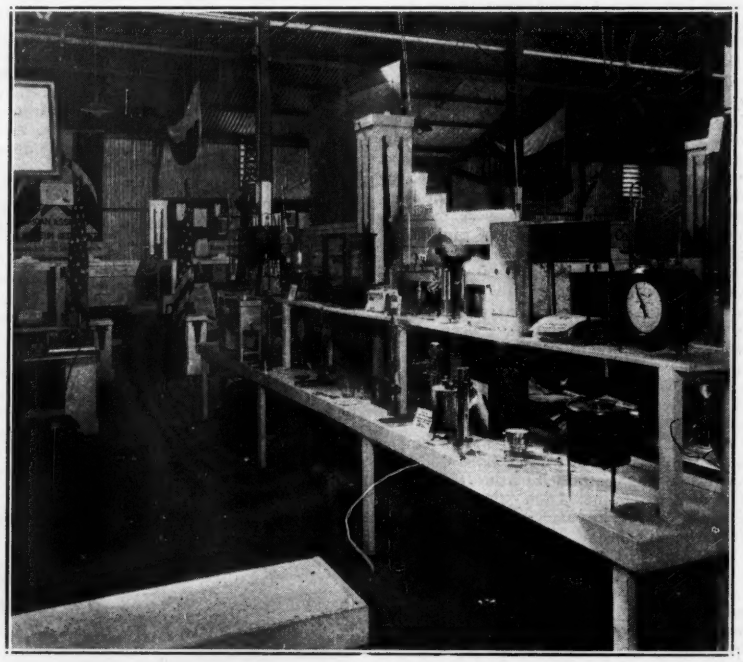


Part of the Scientific and Technical booth showing gyroscopic well surveying instrument and well model.



A portion of the space devoted to scientific and technical instruments at the International Petroleum Exposition.

Exposition Breaks Previous Records

Largest Show in Number and Diversity of Exhibits and in Attendance. Prestige Enhanced by Interest of Leading Oil Executives

By James McIntyre

The sixth International Petroleum Exposition and Congress held in Tulsa from October 5 to 12 was the largest show in number and diversity of exhibits of any held by the exposition association and was attended by more people than any of the five shows preceding it. Over 120,000 admissions were registered at the gates in the course of the eight days, notwithstanding a couple of rainy days that held back a small percentage of patrons.

The intense interest was manifested by the size of the crowd on the last day. Right up to the closing hour of the show thousands of people were hovering around the exhibits both indoor and out and the exhibitors made no effort to move out until the last inquirer was satisfied and it was time to close the gates for another year. It was announced that over 20,000 people attended the exposition on the last day, and among this large attendance were many men who, unable to make the trip earlier in the week, arrived in the city early Saturday and going to the grounds remained throughout the day.

It is said that compared with last year twice the amount of actual business was done by exhibitors at the 1929 show and many of the firms taking part in the exposition clamored for space at the 1930 show.

President William G. Skelly, who is also president of the Skelly Oil Co., announced on Saturday afternoon that plans for next year's show were already being made. Two additional buildings will be erected for the next exposition, one for foreign exhibits and one in which to exhibit refining and marketing equipment.

William B. Way, general manager of the exposition, canvassed the more than 600 exhibitors to ascertain their reaction on the exposition and found them well satisfied.

President Skelly Well Pleased

President Skelly was a happy man Saturday evening. He had given much of his valuable time to make the show a success and he had had the hearty co-operation of the board of directors all of them business men with large interests or with responsible positions. The officers and the directors put the big show over as a matter of civic duty. The exposition company is a non-profit corporation. It was conceived in public spirit back in 1923 and has been carried on for the good of the oil industry. The officers and directors get nothing out of it but glory and if an annual exposition shows a profit it is invested in making the following year's show bigger and better.

President Skelly's impressions of the 1929 exposition and congress gives the story in brief. "It was the biggest petroleum exposition ever held," he said. "It was biggest in its benefits to the oil business. More new things essential to the progress of the oil industry were shown this year than at any previous show, and the show has done more to educate oil men in the practical use of essential equipment and methods than anything else that could have been done."

"The group meetings held in the course of the week were of great educational value," Mr. Skelly said. "Our foreign visitors had the opportunity of getting together in the congress and interchanging ideas. Engineers discussed the latest problems of the industry and the matter of their solution. The safety first meet was a great success; our gathering of old timers and the reorganization of the Pioneers Club added romance to the event by getting together the very grandfathers of the oil industry.

"The air meet was a greater success than even we enthusiasts anticipated and it brought the aeroplane industry into direct contact with that other industry which made flying possible. We are convinced that next year's aeronautical feature will exceed the one this year. We will try to make it international just as the exposition and congress are international.

"The management and directors thank the trade journals, newspapers, civic clubs, hotels and the whole citizenship of Tulsa for helping to make the 1929 exposition the great success it proved to be."

The closing days of the exposition and congress were filled with congress meetings and group sessions, safety first contests and demonstrations in welding and on Saturday the Boy Scouts of America were featured on the program.

Congress of Foreign Visitors

A congress of foreign visitors was held on Thursday. Addresses were made by Dr. R. C. Beckstrom of the University of Tulsa, who presented an English translation of a paper written by Matvey Avakoumovich Kapelusnihoff, a Russian inventor, describing his bottom-hole turbine-driven rotary drill and Prof. Ivan S. Korsooken, of the University of Mexico answered questions concerning the invention. H. Valdez representing the government of Mexico, reviewed Mexican oil production. Mr. Valdez explained the decline in production in Mexico this year as having in part been because of the low price of oil. "We are conducting a conservation program of our own," he explained.

The American Welding Society meeting was addressed by S. C. Clark, technical engineer, who spoke on "Procedure Control and its Part in the Development of Oxy-Acetylene Process in Modern Industry"; A. C. Tipton, welding engineer on "Structural Steel and Pipe Line Welding"; and William Spraragen, technical secretary and editor of the American Welding Society's publication, who described the work of the organization.

The Mid-Continent Royalty Owners Association gave a banquet at the Mayo Hotel at which the pricipal address was delivered by J. Edward Jones of New York, who spoke in favor of a tariff on foreign oils.

The Tulsa Chamber of Commerce had Roger Babson of Babson Park, Mass., as its guest of honor at a banquet attended by over 500 people in the Chamber of Commerce rooms on Friday. Mr. Babson advised against a tariff on foreign oils.

Institutional Recognition

The American Petroleum Institute and the American Society of Mining and Metallurgical Engineers, petroleum division, added to the prestige of the exposition by holding important meetings in Tulsa just previous to the opening of the big oil show. Edwin B. Reeser, president of the American Petroleum Institute, took a very active interest in the exposition and congress and the board of directors of the Institute held an important session here while committees of the Institute held group sessions. The American Institute of Mining and Metallurgical Engineers also held a two days' meeting before the show opened. The sessions of these important bodies brought many important executives and technical experts to Tulsa and they remained for the exposition, a part of them staying throughout the show. The Mid-Continent Oil & Gas Association put the stamp of its approval on the exposition by holding a meeting of its general executive committee, together with the election of officers of the Kansas-Oklahoma division. The association's big banquet brought hundreds of important oil men into friendly social intercourse.

The officers and the management of the exposition are well deserving of all the congratulatory comment made on the exposition. It was an unqualified success and its future is assured. That it is international in its scope is attested by the fact that 20 nations were represented among those who attended, most of them being officially represented by

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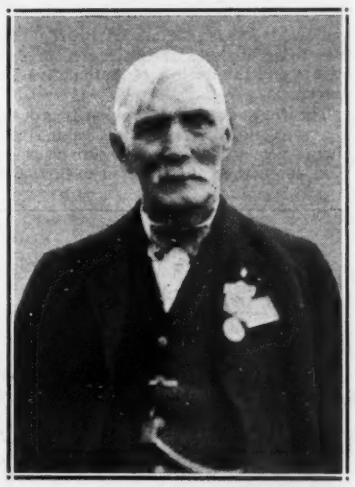
J. C. LOOKER AND MARTIN MORAN GRAND OLD MEN OF OIL IN 1929

John C. Looker, of Bradford Pa., was named grand old man of the oil industry of the world, and Martin Moran of Tulsa, grand old man of the oil industry in Tulsa, at the reunion of The Pioneers held in connection with the sixth annual International Petroleum Exposition and Congress in Tulsa last week.

Gold medals emblematic of the occasion were awarded to the two veterans,



John C. Looker

Bradford, Pa., oil producer, named as grand old man of the oil industry of the world.

both of whom have been in the oil business over a half century.

John C. Looker for many years resided in Rixford in the heart of the Bradford Field in McKean County, Pennsylvania. He was originally a farmer but in the early development of the Bradford Field he drilled for oil on the "Looker place" and became an oil producer. From that time on he devoted his energies to oil production and to the acquisition of more fee land around his holdings. When the water drive or flooding method of operating the Bradford Field was found to be a success Mr. Looker was the owner of over 1,200 acres of choice producing property for which he turned down offer after offer. When the $1,000,000 mark was reached it was thought that Mr. Looker would weaken but not until the Petroleum Reclamation Co. came through with an offer of $1,500,000 for the land did Mr. Looker decide to sell. He then "moved into town," purchasing the beautiful residence of the late Lewis E. Mallory in Bradford, and his public spiritedness and generosity redounded to the benefit of Bradford and its institutions. He was a good roads enthusiast to the extent that a Pennsylvania state road running through a part of the Bradford Field was officially named the Looker Trail. Mr. Looker has been present at every International Petroleum Exposition.

Martin Moran, president of the Texas Pipe Line Co. of Oklahoma, who was named grand old man of the industry in Tulsa, is a native of New York, but began work in the Bradford Field in the early days of that oil area. He went to work for the United Pipe Line Co. in 1875, and rose rapidly to the job of gauger. His field of action was only a short way from the big Looker properties in the Rixford district. Mr. Moran was transferred to the Buckeye Pipe Line Co. in Ohio, where he was a division foreman and then superintendent. He joined the Texas Pipe Line Co. as general superintendent and was later made president of the Texas Pipe Line Co. of Oklahoma which position he has held for many years. Mr. Moran has four sons in the oil business, the eldest of whom is Daniel J. Moran, president of the Continental Oil Co., one of the largest companies in the United States. E. F. Moran is a contractor; W. H. Moran is with The Texas Company, and W. B. Moran chose the refining end of the business as a vocation.

The reunion of The Pioneers was held on the Exposition grounds on Wednesday, October 9, and the presentation of the medals was made by William G.

Martin Moran

Named as grand old man of the oil industry in Tulsa. Mr. Moran is president of the Texas Pipe Line Co. of Oklahoma.

Skelly, president of the International Petroleum Exposition and Congress, who said he hoped that next year when The Pioneers met it would be in a club house built for their use. He paid tribute to the oldtimers, who, he said had largely to use their own ingenuity in solving drilling and production troubles in the early days and whose inventive genius was responsible for so many of the labor and time-saving devices in use today.

The membership of The Pioneers numbers 135 men and one woman, Mrs. L. M. Beatty, of Bartlesville, Okla., age 78, whose husband is also a member. The Pioneers elected Barney Horrigan of

(Continued on Page 145)

Antiknock Testing and Performance

Need Better Correlation of Results Obtained in Laboratory Tests of Motor Fuels and Actual Operation in Cars

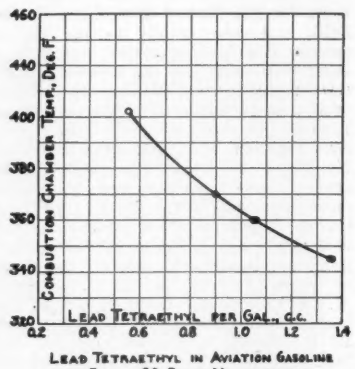
By Earl Bartholomew
Ethyl Gasoline Corp.*

A large number of previous tests has indicated that fuels equal in antiknock value in one engine under one set of conditions are not necessarily equal in other engines under the same conditions. Likewise, it has been proved that fuels equal in antiknock value in one engine under one set of conditions are not necessarily equal in the same engine under other conditions. Temperature has been found to have a greater effect on the ratings of fuels than all other variables combined. In fact, the variation in ratings with changes of speed, spark advance, compression ratio, throttle opening, etc., can in almost every case be traced to a difference in temperature conditions. Figure 1 shows a curve of lead tetraethyl required in an aviation gasoline to equal in antiknock value a blend of 40 parts of benzol and 60 parts of Mid-Continent gasoline, plotted against combustion chamber temperature, as determined on one of the knock testing engines now manufactured by the Ethyl Gasoline Corp.

It will be noted that at a combustion chamber temperature of 345 degrees Fahrenheit measured at a given point, 1.35 c.c. of lead tetraethyl are required in the aviation gasoline to make it equal to the benzol blend. At a temperature of 402 degrees Fahrenheit, secured by the use of ethylene glycol as a cooling agent, only 0.35 c.c. of lead tetraethyl are required to accomplish the same result, and the curve between the temperatures named is almost a straight line. The intermediate temperatures were obtained by using varying proportions of ethylene glycol and water as the cooling agent. S. D. Heron of the Ethyl Gasoline Corp. found even more striking variations in his tests of various types of aviation gasolines at several temperatures. At extremely high temperatures such as those encountered in air and Prestone cooled aviation engines, benzol, for example, has been found to be little better than ordinary Mid-Continent gasoline.

Mr. Heron has determined the operating conditions for the new engine which duplicate the performance of aviation fuels in aviation engines. With a cooling medium temperature of from 300 to 350 degrees Fahrenheit the behavior of aviation fuels in the new engine previously described is identical with their performance in air and Prestone cooled aviation engines and thermocouples inserted in the combustion chambers of the test engines and aviation engines usually show approximately equal temperatures of operation on the same fuel.

It has been necessary for the Ethyl Gasoline Corp. to determine the set of conditions for the new engine which causes automobile fuels to give the same antiknock performance obtained by burning them in cars driven on the road. To determine exactly what the ratings of the fuels should be, two high compression



LEAD TETRAETHYL IN AVIATION GASOLINE TO EQUAL 60 PARTS MID-CONTINENT GASOLINE PLUS 40 PARTS BENZOL

Figure 1—Lead tetraethyl in aviation gasoline.

automobiles have been fitted with all the equipment necessary for an accurate control of cooling water and air temperatures and are being operated on the several types of hills and roads available at the General Motors Proving Grounds. In some of the tests the cars are run at constant speed while attached to a towing dynamometer, and in others they are accelerated or driven up long hills. One of the cars has a valve-in-head type engine and the other an L-head type.

Method of Testing

In order to insure a sufficient supply of fuels for a long series of tests, 550 gallons each of straightrun Mid-Continent, California and vapor-phase cracked gasoline and the same quantity of benzol, have been set aside.

In addition to the new type Ethyl Gasoline Corp. testing engine described four other types of engines are being employed in the series of tests now being conducted.

Figure 2 shows one of the knock testing engines now being made and used by the Ethyl Gasoline Corp.

Figure 3 shows an air-cooled Delco engine connected to a synchronous generator for accurate speed control. The blower at the right is connected to the draft tube of the engine by piping provided with a damper so that the amount of air flowing over the cylinder and cylinder head surfaces may be controlled. A thermocouple in the cylinder head indicates the combustion chamber temperature.

Figure 4 shows a large type single-cylinder liquid-cooled engine similar in design to the Ethyl Gasoline testing engine but having a much larger bore.

Figure 5 shows the variable compression engine being developed by the joint committee of the American Petroleum Institute and the Society of Automotive Engineers.

The fuels described previously are being tested in all five of these engines and simultaneous in the two special test cars. The percentage of benzol in each fuel to equal 3 c.c. of lead tetraethyl is being determined as well as the volume of lead tetraethyl and percentage of benzol in the various fuels required to equal 3 c.c. of lead tetraethyl in the Mid-Continent gasoline. The effect of various variables is being evaluated on each engine. All the fuels are being rated on the liquid cooled engines with cooling liquids ranging from alcohol to pure ethylene glycol and a similar variation in temperature is being obtained on the air-cooled engine by control of the output of the cooling blower. All fuels are also being rated on each machine at a number of speeds, spark settings and throttle openings.

Information Obtained

In this somewhat comprehensive series of tests a relation is being obtained between the performance of the several fuels in automobiles as compared with their behavior in the five test engines. In addition, the variations among the various engines and the changes in detonation comparisons due to the variations in engine conditions are under study.

Making antiknock tests in automobile engines operated on the road is difficult even under the most favorable conditions. The same changes of conditions which produce variations in knock ratings in test engines operate to produce similar variations in ratings in automobile engines. Among the variables which have a bearing on the relative rating of fuels in automobile engines may be mentioned:

1. Temperature of cooling liquid.
2. Temperature of air entering the carburetor.
3. Engine speed.
4. Air pressure.
5. Humidity.
6. Amount of manifold heating.
7. Carbon accumulation.
8. Engine design.

Due to the difficulties encountered in the use of any type of indicator for registering the intensity of detonation in automobile engines, listening methods must be relied upon and the accuracy of estimation is about 0.25 c.c. of lead tetraethyl or its equivalent.

Fuel Distribution

The fuel distribution characteristics of multi-cylinder engines operated at speeds where detonation is ordinarily encountered are such that no two cylinders receive a charge of the same mixture strength and the air-fuel ratio of the charge entering any one cylinder varies considerably. In view of these distribution characteristics there is no such thing as a maximum knock air-fuel ratio, in the ordinary sense of the term, for an automobile engine. One or more cylinders may be operating at maximum knock mixture strength but the others at the same time are probably richer or leaner than this ratio. During acceleration or hill climbing the mixture strength in some or in all cylinders varies from the rich to the lean side of the maximum knock mixture strength. Since detonation on a given fuel is most noticeable at the maximum knock mixture strength, the observer in the car is automatically compelled to rate each fuel at the maximum knock air-fuel ratio. It is, of course, possible

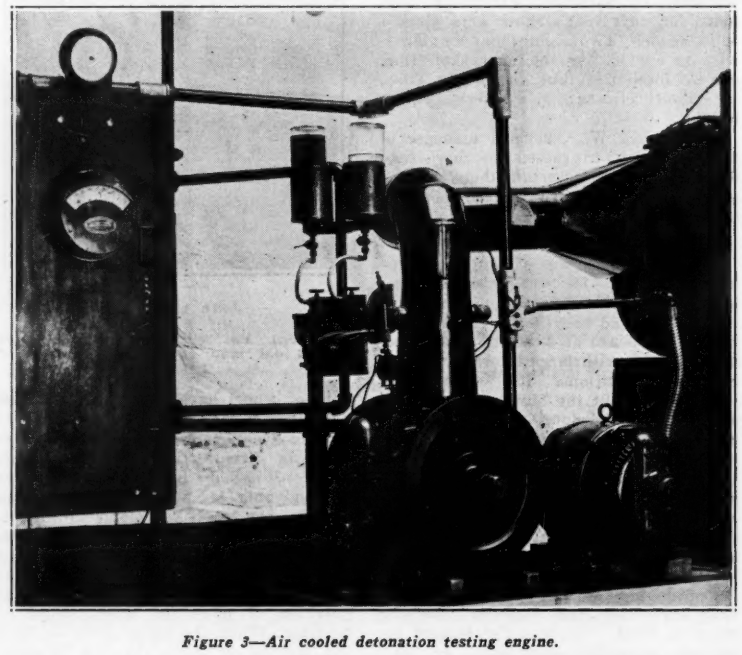


Figure 3—Air cooled detonation testing engine.

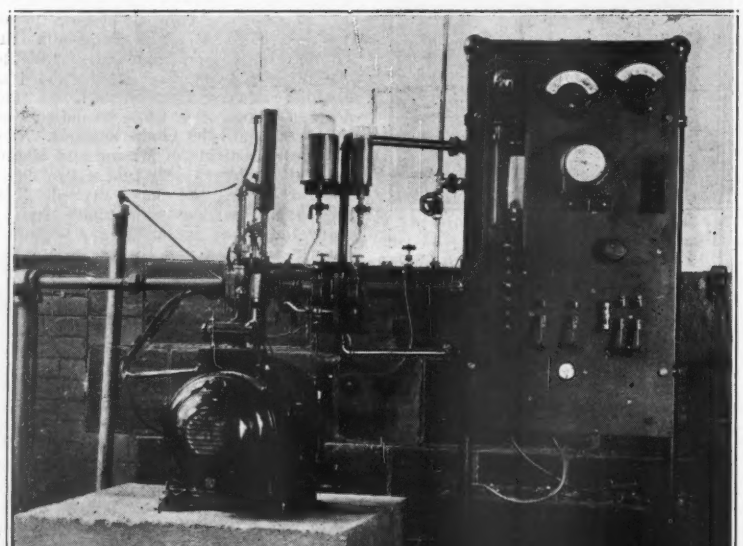


Figure 2—Present type Ethyl Gasoline Corp. detonation testing engine.

*Technical session, Society of Automotive Engineers, Bayway, N. J.

to adjust carburetors to meter to all cylinders at all times a mixture which is richer or leaner than that required for maximum detonation but an engine with such carburetor characteristics is not representative of average passenger car engines.

Conclusions

The series of tests described above has not yet been completed but a sufficient number of tests have been made to warrant the following conclusions:

1. The same factors which cause a given laboratory test engine to give variable ratings on a single fuel are also present in automobile engines, hence two fuels which may be equal under one set of conditions in an automobile engine are not necessarily equal under any other conditions. For example, it is possible to have gasoline containing a given concentration of lead tetraethyl detonate on acceleration up to 15 miles an hour with no detonation on acceleration at higher speeds. It has been found that a benzol blend of the same fuel, containing the minimum percentage of benzol necessary to suppress detonation during acceleration up to 15 miles per hour, detonates badly on acceleration at higher speeds. With increasing car speed, combustion chamber temperatures increase and lead tetraethyl becomes more effective relative to benzol. In as much as no satisfactory means of measuring detonation in absolute units is now available it can not be said definitely that lead tetraethyl increases or that benzol decreases in antiknock value, hence we must be content with relative ratings. In cases of variations of ratings at different speeds, two fuels in this series of tests have been said to be equal when each is at the point of incipient detonation at some speed during acceleration up to 50 miles an hour. It is believed that this evaluation is fair because detonation is objectionable to the average car owner regardless of the speed at which it occurs.

2. Two fuels equal in antiknock value in one automobile engine under a given set of conditions are not necessarily equal in an engine of different design under the same conditions. Needless to say, the variation in the ratio of combustion chamber surface to combustion chamber volume, differences in cooling, etc., in engines of different types are sufficient to produce as great or greater effects than are produced by a change of conditions in a single engine.

3. In view of the behavior of fuels described above, the rating of fuels in automobile engines must of necessity represent a compromise but, fortunately, temperature variations in different designs of automobile engines are not extreme and the relative antiknock performance of various fuels is not objectionably different in various engines if a proper average rating is obtained.

4. Laboratory test engines of different design may give different ratings on a given fuel under the same conditions of speed, throttle opening, spark advance, and cooling liquid temperature. All engines, however, produce variations in the same direction as the result of a given change of conditions. For example, all engines show an increasing effectiveness of lead tetraethyl with reference to benzol when the temperature of the cooling liquid is increased.

5. Unless a laboratory test engine is of unusual design, conditions may be chosen which cause it to give ratings representative of the average antiknock performance of fuels in all types of automobile and aviation engines A large engine may require a low temperature of cooling liquid while a small engine may require a higher temperature. An engine which operates with an inherently hot combustion chamber may have to be operated at a lower speed than an engine with better combustion chamber cooling but a set of conditions can be chosen on each engine which should bring all engines into agreement on practically all fuels.

6. Once the admission has been made that engine conditions cause a variation in the ratings of fuels, there is no justification for building an engine whose cylinder is a duplicate of an automobile or airplane cylinder, in order to rate fuels properly for use in these two types of engines. The laboratory test engine, then, becomes a measuring instrument which in its physical dimensions may bear little relation to automobile or aeroplane engines but which, by a proper choice of conditions, gives knock ratings which are representative of the ratings obtained in these engines under their average conditions of operation. The laboratory test engine should be put in the same class as viscosimeters which are instruments of small size bearing little relation to engines but which, on account of standardized dimensions and temperatures, give viscosity ratings which are reproducible in various laboratories and bear a definite relation to the performance of oils in engines.

7. It is extremely fortunate that attempts at standardization of knock testing apparatus were not made too soon. Otherwise it is doubtful whether many of the variables which have an influence on rating gasolines would have been discovered yet.

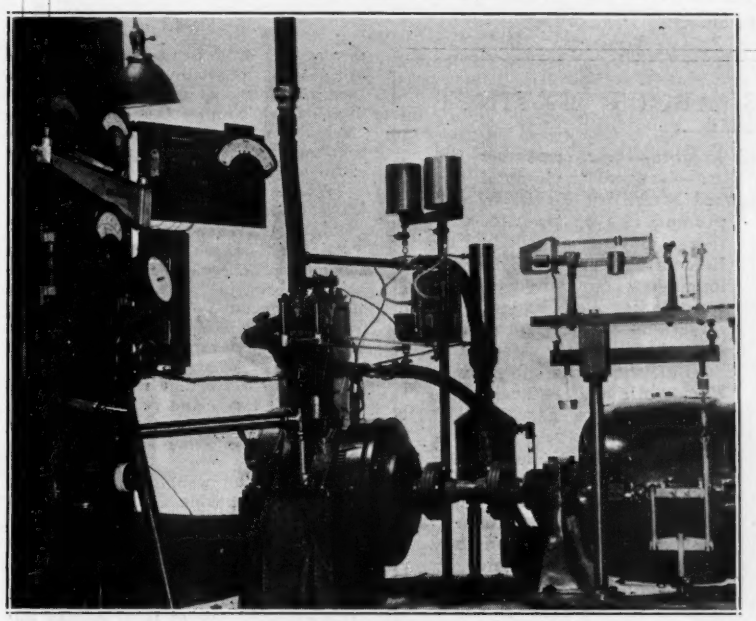


Figure 4—Large bore detonation testing engine.

Ideal Knock Testing Engine Specifications

In view of the experiences enumerated above it seems desirable to list the following specifications of an ideal knock testing engine.

1. It should be a universal engine which by a change of conditions is suitable for testing fuels for any type of automobile or airplane engine.

2. Volumetric efficiency should be high to permit the use of as low compression ratio as possible.

3. Due to the somewhat erratic behavior of L-head engines used for knock testing purposes, and to the difficulties encountered in attempting to locate a detonation indicator in an L-head engine, the ideal knock testing engine should be of the valve-in-head type

4. Cylinder and cylinder head cooling should be as uniform as possible. A uniform temperature is superior to an average temperature of the same degree obtained by having portions of the combustion chamber colder and hotter than the average temperature.

5. The piston should be small to keep the ratio of piston area to circumference at a low figure, and it should be so designed that it operates at as low temperature as possible. Aluminum alloys, by reason of their greater heat conductance, are preferable to iron.

6. Cooling, regardless of the liquid employed, should be by evaporation and the liquid should be circulated if high temperature cooling liquids are to be used.

7. The carburetor should be of the single jet type and provision should be made for the indepenent adjustment of fuels for maximum knock.

8. The engine should be so designed that the duration of the unsteady state existing immediately following a change of fuels is reduced to a minimum. Uniform cooling of cylinder and cylinder head and the design of the carburetor to keep the volume of fuel between the jet and fuel-changing valve at a minimum accomplish the desired result.

9. Provision should be made for the maintenance of constant speed which should not exceed 1,000 revolutions per minute or preferable 600 revolutions per minute, due to the more consistent oper-

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Corporation Commission Issues Order

Approves Curtailment of Oklahoma Pools and Prescribes Rules. Ray M. Collins Named Umpire to Enforce Plans

By James McIntyre

OKLAHOMA CITY, Okla., Oct. 15.—The Oklahoma Corporation Commission today issued an order curtailing production in the East Earlsboro, greater Seminole and Logan County Fields, effective Wednesday, October 16 at 7 a.m., and the Oklahoma City Field effective on November 1, the curtailment to be as follows: All wells in Logan County, the entire greater Seminole district, Allen, Sasakwa, Asher, St. Louis and Pearson Fields shall be prorated by curtailing output 20 per cent up to and including October 31, 1929; present proration order of 50 per cent effective in East Earlsboro is extended to October 31 inclusive. Commencing November 1, the Oklahoma City and East Earlsboro Pools shall be curtailed 40 per cent and the remaining areas covered by the order 20 per cent. During the month of December the Oklahoma City and East Earlsboro Pools shall be curtailed 50 per cent and the three remaining named pools 25 per cent.

To establish equality between producing and drilling wells, each well now drilling in any of the areas named, or which may be commenced prior to January 1, 1930, shall take a delay prior to being put into production and in addition to the seven days allowed for the setting of the cement on the final string of casing, equal to the accumulated shut-in time and accumulated equivalent time resulting from pinching in producing wells from the beginning of the proration period in each pool, which in the case of the Oklahoma City Pool shall be September 12, 1929, and in the case of the East Earlsboro Pool shall be September 28, 1929, and as to all other pools herein named October 16, 1929. All purchasers and carriers of oil in the State are forbidden to purchase or carry oil from the pools covered by the order produced in violation of the commission's order.

Ruling on Gauges

Twenty-four-hour potential gauges shall be taken each Wednesday in the Asher, East Little River and Sasakwa Pools and the Wilcox sand wells in the Allen Pool, to establish the amount of allowed production but the excess production shall be deducted from the allowed production during the six days of proration. In Lovell, Seminole City, Searight, Old Earlsboro Pool, Maud, Mission, Bowlegs, Carr City, Little River, in Township 7-6, St. Louis, Pearson and the wells other than Wilcox sand wells in Allen, a gauge of potentials shall be taken according to the decline curve. The daily average production of each lease in the month of September shall constitute the potential for the period October 16 to 31. New potentials shall be arrived at by using the decline curve on each lease as fixed by the umpire and the operators' committee.

In all pools specified, except Oklahoma City and East Earlsboro, the umpire and operators' committee may set up and enforce a schedule of shut-in time on newly completed wells for each of the three periods covered by this order. Shut-in time for wells coming in from October 16 to 31, three days; for wells coming in in November, nine days; during December, 16 days. After a newly completed well has shut in completely for the above specified time in addition to the seven days allowed for cement to set it shall be allowed to produce to capacity from that time until the end of the month and thereafter shall have applied to it the percentage of proration specified in the order.

Production in the East Earlsboro Pool shall be prorated according to the present existing order to and including October 31, thereafter production from that pool shall be curtailed by the percentage of potential production specified for that pool, namely 40 per cent in November and 50 per cent in December. The potential production gauge shall be taken each week from 7 a.m., Friday to 7 a.m., Saturday. With respect to new wells brought into production in East Earlsboro Pool the shut-in time shall be 27 days for wells completed in November and 42 days for wells completed in December, to be computed in each instance after allowing seven days for cement to set.

Judge Frank B. Burford appeared for the petition and W. C. Franklin, Ray M. Collins, E. B. Reeser, representing the Barnsdall Oil Co., and E. I. Reeser, appearing for royalty owners, gave testimony. Not a voice was raised against the petition, although representatives of oil companies and royalty owners were present throughout the hearing.

Ray M. Collins was appointed umpire and agent of the Corporation Commission to enforce the rules made by the commission. He will be assisted by a committee of operators in each of the pools named.

Salesmanship Fashions Have Changed

Once Popular Formula of Putting Up a Big Time and Then a High-Powered Sales Talk Is No Longer Effective, Mr. Davis Says

By Thomas F. Smiley

Of course Merrill N. Davis, vice president and manager of sales for the S. R. Dresser Manufacturing Co., knows a thing or two about salesmanship. If he didn't he wouldn't have his present job and title. But he has some queer ideas on the subject. At least they seem queer to a fellow brought up under the old dispensation. You get the notion that while he is tremendously interested in making sales, he is still more interested in making friends, or rather in deserving them. And therein perhaps lies the center of modern salesmanship.

Mr. Davis frankly admits he would rather lose a sale than lose a friend. Maybe an early New England ancestry has something to do with it. Sylvester Stover, a grandfather (preceded by a procession of "greats" of course) of Mr. Davis, came over from England and settled in what is now York County, Maine, in 1640, only 20 years after the Mayflower landed. Succeeding generations of the family stuck pretty close to that state and Mr. Davis himself was born in Millbridge, Washington County, in 1886. He lived in Millbridge and Mount Desert till he was 16, attending district school in Millbridge and high school at Mount Desert Island. He had planned to attend Colby College, Waterville, Me., but changed his mind and instead got a job as an office boy with the Henry K. Barnes Co., Boston, Mass., manufacturer of leather belting and fire department supplies. However, he took night courses in commercial and other branches and a correspondence course in mechanical engineering.

Joined Park Street Club

Promotions came as time passed and young Davis was shipper when he left the company in 1905 to become a salesman for the Empire Rubber Co. in Boston. While employed by this company the young man became a member of the Park Street Club, a debating society of more than ordinary interest and importance. The club had been organized many years before by young men of the Park Street (Congregational) Church, but its membership embraced outsiders, including students of Harvard Law School, who sought this opportunity to train themselves in debate. About 200 names were on the roll at the time of Mr. Davis' connection with the club. Lawyers, judges and other professional men who had been members in their younger days often retained their membership and they delighted in efforts to test the equanimity of young speakers under trying conditions.

A regulation of the club required that each member take active part in debate at least once a year. Parliamentary rules were observed strictly. Newspapers of the city regularly assigned reporters to cover the debates. The subjects discussed were of political, social and civic interest and decisions reached were treated with respect by the press.

The first time Merrill was put on the program the subject for debate was the income tax. Speakers were limited to eight minutes. Merrill interviewed tax experts and read books on the subject in preparation for what he meant should be a brilliant eight-minute speech. He did not provide himself with notes. They would only hamper his oratorial style.

Started Off Like a Demosthenes

"Gentlemen," he began, as he glanced easily at his printed program to heighten the appearance of spontaneity, "the subject for our debate tonight is 'Resolved that the income tax provides the most equitable form of taxation.' "

And then his mind became a blank. Not one of the facts which he had collected so carefully could he summon. But he began to talk. He saw a judge smile. A young man apparently staring at Merrill's necktie snickered. The speaker nervously adjusted the necktie and kept on talking. He listened in desperation for the rap of the chairman's gavel which would signify that only one minute of his eight remained. After what seemed like an hour Merrill announced abruptly, "That's all," and sat down. He found out that he had been on his feet four minutes. To this day he has no idea of what he had said.

The experience, instead of scaring him from further participation in the club's work, caused him to resolve that he would learn to be at ease before an audience of 1 or of 1,000. From that time he embraced every opportunity to take part in debates. He never again had a similar attack of stage fright and he himself became president of the club. He came to regard the mortification that attended his maiden effort in spellbinding as one of the most valuable experiences of his life.

For six years beginning with 1910 Mr. Davis was with the B. F. Goodrich Rubber Co. In the first half of that period he worked out of Boston as a salesman, covering part of New England, all the maritime provinces of Canada and Newfoundland. Then he was sent to Pittsburgh, Pa., to devote his attention especially to the sale of rubber products used in oil and natural gas lines. In 1916 he was one of the organizers of the Rex-Hide Rubber Manufacturing Co., East Brady, Pa. In the fall of 1918 he dropped out of the company, which was continued, however, by his associates, and he returned to Goodrich, remaining with that organization until July, 1919, when he went with the Dresser company.

Discovered Texas Was a Big State

During his service with the Goodrich company Mr. Davis was dubbed by his associates "The Great American Traveler," as the result of his long journeys which took him not only to all the provinces of Canada, but to every state in the Union. He gained some new conceptions of distances in this period. His previous notions had been acquired in the eastern states, especially those of New England. He recalls with a chuckle one Saturday night when he arrived in Dallas, Tex., and wrote to his wife that since Texas was right on the Mexican border he probably would ride over to El Paso the next day and cross the Rio Grande into Mexico, just for the experience. He was startled Sunday morning, upon inspecting a map, to discover that the distance from Dallas to El Paso was about two-thirds that from Dallas to his home in Akron, Ohio.

In 1919 Mr. Davis joined the S. R. Dresser Manufacturing Co., as director of sales and advertising and he moved to Bradford, Pa., home of the company, where he has resided since. In 1928 he was promoted to vice president in charge of sales. The business of transporting oil and gas has grown to five times what it was when he entered the service of the company a decade ago.

On one of his trips into Canada, Alberta, in 1920, Mr. Davis entered a hotel in the city of Calgary and encountered the late T. O. Sullivan of Pittsburgh, then vice president and general manager of the Hope Natural Gas Co., which incidentally was a large user of pipe line couplings. Mr. Sullivan was a picture of unhappiness.

"What's the matter?" inquired Mr. Davis cheerfully.

Whew-w-w-w!

"Matter?" rasped the other, glaring as though he believed the newcomer was about to spit in his face. "Man alive, smell this cigar I'm smoking! Burning overshoes are incense compared with it. I can't get a decent cigar anywhere in this city."

"Well, we'll fix that right away," returned Mr. Davis and getting a handful of imported Havanas from his bag he pressed them into the hands of the dejected man.

"Why, I don't want to rob you," said Mr. Sullivan, making a feeble motion of refusal to take all the proffered cigars.

"You're not," was the reply. "I've got plenty."

Peace, good will and supreme contentment settled upon Mr. Sullivan's features as he lit one of the Havanas. It never was Mr. Davis' policy to lose by default any advantage once gained, and yet he knew he couldn't keep Mr. Sullivan supplied from his own stock indefinitely. He himself had net no difficulty in getting good cigars in Canadian cities. A suspicion flashed across his mind. He went to the hotel cigar stand when Mr. Sullivan was not around and said, "Let me have some good imported Havanas."

Several brands were drawn from under the counter and placed before him. He laid in an ample stock and he continued to feed them out to Mr. Sullivan, who supposed they had come from Mr. Davis' traveling bag, like the first ones. Mr. Sullivan, in buying cigars in Canada, had neglected to ask for imported ones, with the result that he always received Canadian domestic goods, whose fragrance was nothing to brag about. It was a small omission, but it curdled a sweet temper. It is needless to add that after this incident Mr. Davis never was obliged to think up ways of gaining the friendly attention of Vice President Sullivan of the Hope company.

Mr. Davis married Miss Hattie Edith Jones, of Boston, and they have two children, a son and a daughter.

What? A Salesman Refuse Orders?

Reverting to Mr. Davis' ideas of salesmanship, it is of record that on one occasion when he was selling rubber products he was given a certain Canadian territory which had never yielded a satisfactory volume of business. Before starting his trip he made a careful study of the reports, correspondence and orders and found that whenever a representative had called upon the trade in that territory he invariably got small orders but that between trips no orders were sent in. Mr. Davis decided that those orders were complimentary and the reason repeat orders were not sent in was that the customers had not been sold on the idea that his company was their logical source of supply. He went to the manager and asked: "Will you let me go over that district and come back here without taking an order?"

"What's the idea?" asked the manager, a practical man who believed that the way to get orders was to get them.

"I just want to make all those buyers see that our company is their logical source of supply and that we've got the things they want and that their own interests should impel them to deal with

(Continued on Page 107)

FAITH IN HOOEY IS ABOUT EXTINCT

Pine trees, potatoes and plumed knights — you remember the Blaine presidential campaign, don't you? — are not the only things that have come from Maine. It produced Merrill N. Davis. Which prompts the observation that things have changed in the field of salesmanship. Not so long ago a commonly accepted formula for s e l l i n g a man something, whether he needed it or not, went like this:

Merrill N. Davis

First, show him a big time. Then while he is enthralled by your lavish disregard for expense and his resistance is low, t u r n on a smothering stream of high-powered sales talk. This sales talk, according to the once popular theory, must be not merely convincing. It must be hypnotic. It must contain just the right amount of flattery. It must bristle with superlatives, with unqualified assertions of superiority and w i t h cunningly compiled figures and comparisons.

When your victim is near exhaustion—groggy under the flood of words—you get your order blank in front of him and before he has recovered full possession of his faculties you get his signature.

Millions of dollars' worth of goods are said to have been sold by this or some similar mode of procedure. But faith in its efficacy has not merely waned. It is virtually extinct. The reason is that the modern buyer of goods is neither a drooling idiot, a grasping mercenary nor a weak-willed fool. He is a clear-minded business man, interested in better products and better methods, but having little time for bunk, blandishment and entertainment of a questionable sort.

A group of major oil company plants equipped with Southwestern Gas Coolers

THERE is only one reason why the major oil companies whose plants are pictured above chose Southwestern equipment . . . ***super efficiency!***

Southwestern Gas Coolers provide the most *economical* way to handle gas from both wells and compressors. The cross-flow design effectively cools the gas . . . the back pressure is surprisingly low . . . the units are compact and accessible.

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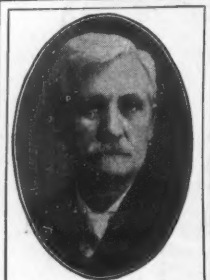

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MEMBER AUDIT BUREAU OF CIRCULATIONS

ON THE RIGHT ROAD

The 1929 International Petroleum Exposition came nearer to realizing its true value to the industry than any yet held.

In point of attendance it established a new record both in numbers and the proportion of active oil men present.

This characteristic was evident to any visitor to the grounds. There was little of the mere parading around sightseeing among the thousands of daily visitors. Rather, the personal interest shown by the majority of the crowd in this or that feature on display indicated the natural curiosity of men intent upon learning something that would aid them in their work.

The conversations around the stands and the questions addressed to exhibitors proved that the bulk of the visitors were men familiar with one or another phase of the oil industry, precisely those the Exposition was designed to attract and help.

This fact was naturally pleasing to the exhibitors whose support has made the Exposition possible, and who were thus left freer to give their time and attention to practical oil men rather than answering more or less idle inquiries from the general public.

The result of this change in the quality of the attendance was seen in the report that exhibitors had done more business at this exposition than any preceding it.

It was also gratifying to the oil companies which, at considerable expense, had arranged for their men to visit the Exposition with the purpose of having them see the newest in equipment and processes. The air of business-like interest which marked this exposition, undistracted by side attractions, encouraged and permitted concentration on the exhibits and demonstrations to the benefit and advantage of both the companies and their men.

Thus, from every standpoint, exhibitors, companies and individual oil men, the 1929 Exposition was of real interest and value.

The industry was able, this year, to see what could be made of the Exposition as an exhibition ground for the industry and the general opinion was that it had proved itself.

It has taken seven years and six expositions to reach this point. When first suggested the idea was variously received. There never had been an oil exposition and many could not see any need for one. Others thought it might be worth trying—once, but it was a thing that had to be shown.

The earlier expositions, handicapped by the difficulties of a new undertaking, lack of sufficient facilities and other drawbacks, managed to show what might be accomplished. This year's exposition is regarded as having placed the Exposition upon a firm and lasting foundation.

It is but fair to say that much of the credit for this accomplishment is due to President W. G. Skelly, whose energetic and persistent interest in the Exposition, as an oil man and as a Tulsan, was just the leadership needed at a critical period to carry the undertaking through to the stable ground it now occupies.

The directors were fortunate in securing as general manager a man of W. B. Way's experience and wide acquaintance in the industry who will be able to devote his complete time and attention to the continuing task of improving and perpetuating the Exposition.

After this year's oil show there will be no question of its value to the industry, or the advisability and indeed necessity of its maintenance on a permanent basis.

So far each exposition has been better than the preceding one, and it is assured this will be as true in the future. The plans tentatively announced by President Skelly and General Manager Way for enlargement and expansion are but the beginning.

The large attendance of foreign representatives this year and the increasing recognition of the influence of foreign fields, markets and methods upon the world oil industry justify the plans for a foreign building. It will offer a convenient meeting place for an exchange of ideas where American manufacturers of equipment may show visitors from abroad what we have and where our foreign friends may explain their peculiar difficulties and what they require to overcome them.

The second new building suggested by President Skelly is one for the display of marketing equipment, a branch that has not been adequately accommodated. In line with this it may be suggested that much might be added to the Exposition in exhibits of utilization of oil products. Aviation was represented this year practically for the first time, but this is only one department of utilization.

While it is true it is properly an exposition for oil men rather than the general public there are many phases of the utilization of petroleum products which directly concern oil men and naturally fall under the heading of a petroleum exposition. In the manufacturing and marketing branches it is highly desirable there should be the most practical understanding of just how and for what purposes petroleum products are utilized.

The primary aim of the Exposition is educative. It has already accomplished a great deal along this line. General Manager Way summed up one important phase very aptly when he said the Exposition has broken down sales resistance to new ideas.

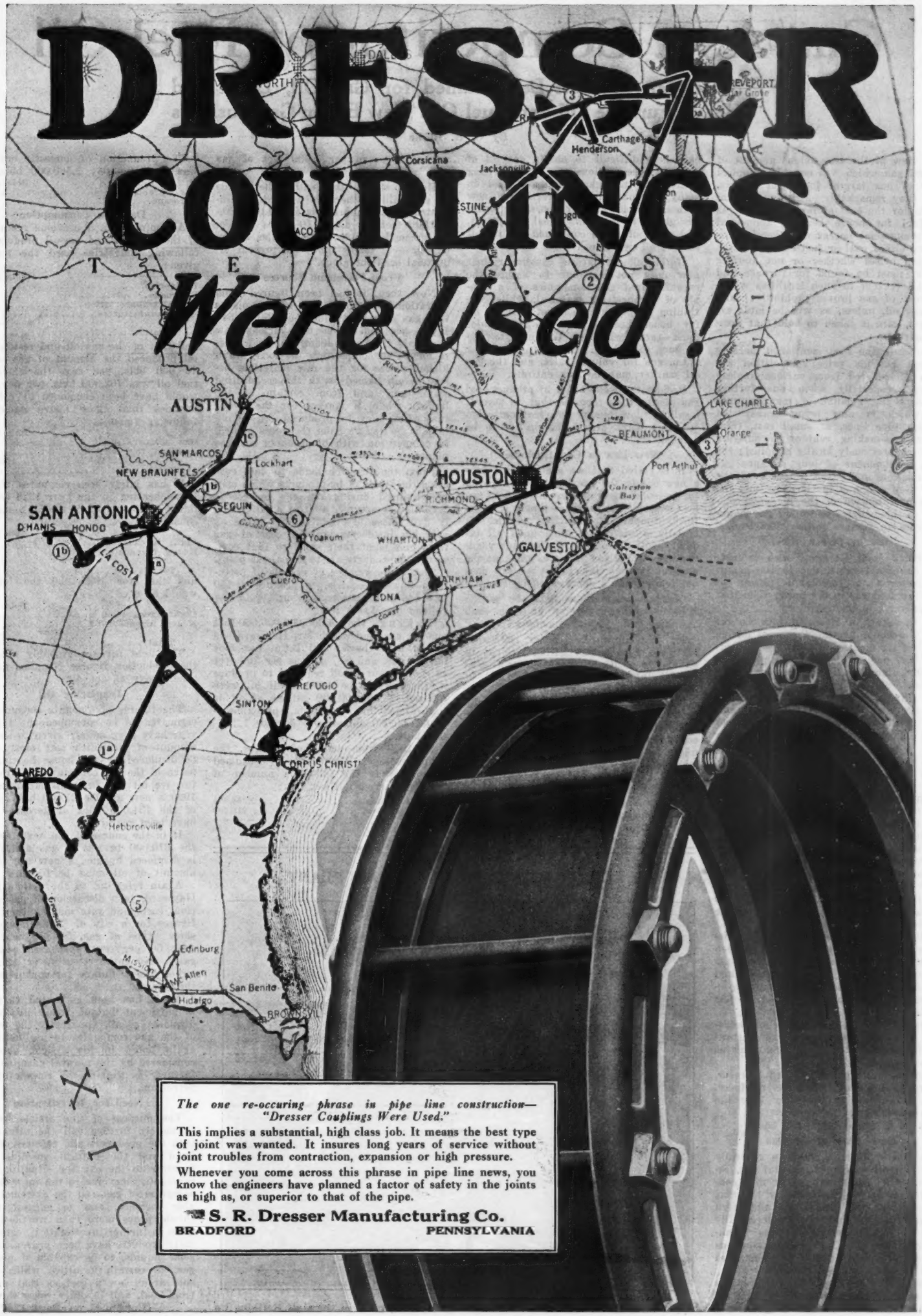
Particularly in the production end the industry was for long years handicapped by traditional usages. It has been comparatively recent that the geologist and the petroleum engineer have been given opportunity to prove themselves. This was true also of innovations in methods and equipment. The petroleum exposition has done away with this resistance by showing what was being accomplished and just how it was being done.

The industry has come out of its traditions and is keenly alert for new ideas, hence the increasing interest in the Exposition among the operating forces in field and plant. It is an inspiring display that conveys a sense of the magnitude and unity of the industry and the dominant place it occupies in modern civilization.

This year's exposition, besides its more exclusive attendance by oil men and strictly oil program, came closer to the ideal of an oil congress than any of its predecessors. The meetings of the A.I.M.E. and the A.P.I. Division of Development and Production Engineering, and the meeting of the A.P.I. directors on the Code of Ethics were practical business conferences suggesting the sort of meetings most appropriate and serviceable for future expositions.

The industry has every reason to believe that under the leadership of President Skelly and General Manager Way the next exposition will be even bigger and better in every way. It is now on the right road.

DRESSER COUPLINGS *Were Used!*



The one re-occuring phrase in pipe line construction—
"Dresser Couplings Were Used."

This implies a substantial, high class job. It means the best type of joint was wanted. It insures long years of service without joint troubles from contraction, expansion or high pressure.

Whenever you come across this phrase in pipe line news, you know the engineers have planned a factor of safety in the joints as high as, or superior to that of the pipe.

S. R. Dresser Manufacturing Co.
BRADFORD PENNSYLVANIA

Gas As a Competitor of Fuel Oil

Must New Markets Be Obtained for Gas Oil, Light and Heavy Furnace Oil and Fuel Oil? New Era in Gas Business

By C. R. Burke

In view of the tremendous amount of natural gas which will soon be supplied many of our largest industrial centers, and the remarkably successful campaigns for the sale of manufactured gas for fuel for house heating, industrial and commercial operations, thereby displacing either coal or fuel oil, surely the question arises whether or not another market must be found for furnace and fuel oil (except in such localities where the cost of gas proves prohibitive) and for gas oil, unless, as will be later explained, care is taken to hold that present market.

To retain the first mentioned markets without ruinous price competition appears (considered from various angles) difficult, especially when one further considers the amount of manufactured gas which is now being transported through pipe lines, at small cost, from several gas-making centers to outlying localities previously locally supplied; the great development of long distance gas transmission under the auspices of the Ruhr Gas company in Germany and the apparent intention of the Koppers company in this country and other gas manufacturers to further follow that lead.

Gas in Power Field

Reports from Germany also indicate that the gas turbine, due to the genius of Doctor Otto, forecast a future for manufactured gas in the power field that is not yet appreciated.

In the State of Massachusetts the gas sales for house heating increased during the first six months, ending June 30 this year 60.9 per cent over the same period of 1928, industrial and commercial 1.6 per cent.

In Illinois, same period, house heating 25.6 per cent; industrial 12.6 per cent.

In Michigan, house heating 95.1 per cent; industrial and commercial 20.3 per cent.

In Connecticut house heating 116 per cent; industrial and commercial 17.9 per cent.

Wherever natural gas is supplied it is safe to assume that neither coal nor oil will be used for house heating and industrial and commercial use, provided the rates for gas are held at competitive figures. If they are not to be so maintained why lay the miles of pipe lines? They must be or the lines are useless for the purpose intended, and we can be assured that this will not be while the natural gas supply remains.

Authorities in the business of distributing gas hold that the battle between the long distance gas and the local gas manufacturer has just commenced, and promises to be one of the most spectacular developments of the next few years.

Whether or not the refiner of petroleum and the manufacturer of natural gasoline takes part in the battle remains to be seen.

The natural gasoline manufacturer, natural and manufactured gas producer, now knows that butane may take the place of gas oil for carburetting purposes on a competitive price basis.

Raw Material for Gas

As is not, however, perhaps generally known to all concerned, natural gas, refinery "still" gases, natural gasoline containing a large proportion of butane, butane, gas oil, crude oil, and even residual fuel oil have been successfully used as raw materials for gas manufacture, and their use should continue to grow provided a proper and sustained effort is made to speed their use.

Discussing the foregoing with various gas manufacturing interests, it was recalled that when some years ago it was extremely difficult to obtain gas oil of desired specifications for carburetting water gas, the gas companies had in many instances, in the erection of new plants, turned from carburetted water gas plants to by-product coal gas plants, and all would have continued so to do if the gas oil situation had not changed.

If the oil and natural gasoline refiner now does not continue to assure the manufactured gas companies of a supply of carburetting material, while continuing to push the sale of furnace oil for house heating, the gas companies must turn, wherever possible, to by-product coal-gas plants, producing lower B.t.u. gas for volume sales, and the gas oil market may be lost entirely.

Besides the well-known by-product coal gas plants, it is reported that, in several localities, low temperature carbonization coal gas plants are being or are to be erected.

New Era in Gas Business

It is stated that we are stepping into a new era in the gas business, compared to the solid fuels and even fuel oils gas possesses such advantages that a straight B.t.u. comparison is entirely unfair. It is only a matter of time until all industry will understand the secondary advantages which gas possesses and that the apparently high B.t.u. cost of gas does not really mean a more expensive fuel.

Gas is constantly "on tap," the "smoke nuisance" eliminated by its use, and handling costs to the consumer.

H. W. Hayward, director, Research Institute, Combustion Utilities Corp., in an article entitled, "The Industrial Gas Load," in the "Gas Age Record," of May 25, 1929, stated:

"Based on bituminous and anthracite coal and on fuel oil now used in domestic and industrial appliances, and excluding certain processes where the form of fuel might be necessary from a metallurgical standpoint, it is estimated that there is a potential gas load of 7,000,000,000,000 feet of annual load," and that "it is, however, almost astounding how low a sound industrial rate may be, in comparison with the domestic and still provide an equal return per 1,000 feet of gas sold."

He also stated "that within the bounds of possibilities there is a potential industrial load approximately 4,000,000,000,000 feet, or about 10 times the total domestic and industrial sales of today or over thirty times the present industrial send-out alone."

From Petroleum Sources

Now then, it has been figured from operations of commercial oil-gas plants that gas may be produced of 450 to 540 B.t.u. per foot from the various raw materials from petroleum sources hitherto named in competition (at today's and higher prices for the raw materials before herein named) with the carburetted water gas, and from certain of the liquids, where a market for the motor fuel which may be produced can be obtained, as well as from the gases named, in competition with by-products coal-gas plants.

From the research made to date covering the yields of by-products which may be produced during the gas process it may also be assumed that at a fairly early date these by-products will prove as valuable in decreasing the cost of gas from credits of their sales to that cost, as the by-products are to a coal-gas plant.

Today the number of gallons of petroleum liquids required to produce a 450 to a 540 B.t.u. gas runs from 4½ to 6½ gallons per 1,000 feet.

Taking the 4,000,000,000,000-foot amount gas load which Mr. Hayward has named as a basis, 530 B.t.u. per foot for the gas, and 5½ gallons per 100 feet as the amount of oil required to produce it, there would be required, if oil were utilized, 24,000,000,000 gallons of oil or natural gasoline per annum, approximately 66,000,000 gallons per day, or 1,300,000 bbls.

In 1928 from published figures, the refineries in the United States consumed approximately the following number of barrels of crude oil per day:

Domestic crude	2,300,000
Foreign crude	210,000
Total	2,510,000

The production of domestic crude oil was approximately 2,500,000 bbls.

	Bbls. per day
Gas oil and fuel oil	1,170,000
Kerosene	134,000

Data on Consumption

Assuming from a previous report that of the fuel oil and gas-oil produced the following industries used the amounts given:

	Bbls. per day
Refineries	130,000
Railroads	150,000
Ocean transportation	180,000
Gas manufacturers	100,000
Total	660,000

and that of the gas oil and residual fuel oil produced the amount of gas oil was 408,000 bbls. per day, the amount of fuel oil was 762,000 bbls. per day, there would have been consumed by other industries than those above named the following amounts:

	Bbls. per day
Gas oil	308,000
Residual fuel oil	302,000
Total	610,000

It has lately been computed that for house heating in the year 1928-1929 the following quantities of the oil named was consumed:

	Bbls. per day
Light furnace oil	21,000
Heavy furnace oil	30,000
Total	51,000

and that for 1929-1930 the following would be used:

	Bbls. per day
Light furnace oil	30,000
Heavy furnace oil	40,000
Total	70,000

The light furnace probably classed in the production figures compiled as kerosene, heavy as gas oil.

Displacing Oil

The figures of amounts consumed and estimated to be consumed the following year have been merely given to show the amount of oil which may most quickly be displaced by the house heating campaign of the gas companies. If the light furnace oil had been displaced in 1928-1929 a new use for 21,000 bbls. per day of the 134,000 bbls. of kerosene would have been required.

If in the course of the next few years the 610,000 barrels of gas and fuel oil is displaced by gas, a new use for that amount of oil must be found.

Again referring to the article by Mr. Hayward, in a discussion of gas production, costs and rate making therein, the figures for a city of 300,000 population show "type of gas, 50 per cent water gas; 50 per cent purchased coke oven gas." No carburetted water gas, using either gas or butane for carburetting, in the figures.

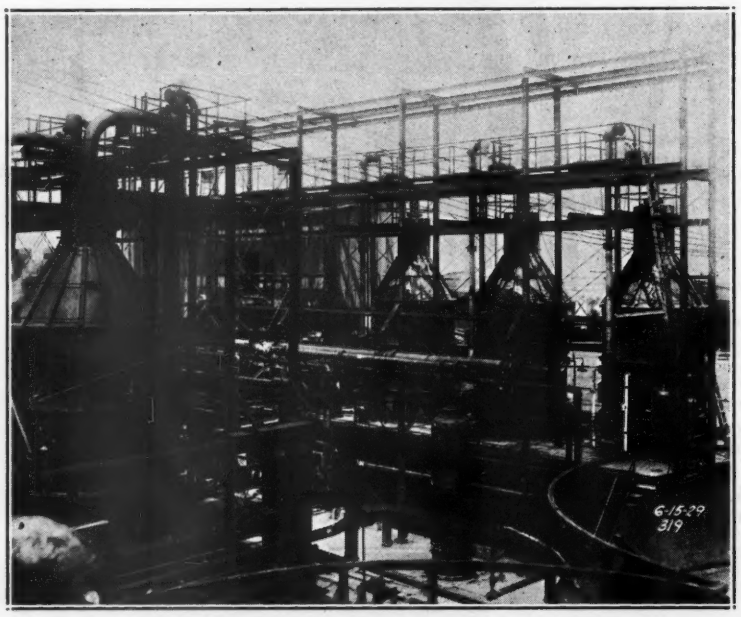
As it has been estimated that there is sufficient butane today available to displace gas oil, apparently the tendency of the gas companies to use neither, as again noted in his article, should be considered by the natural gasoline manufacturer as well as the refiner of crude petroleum.

Need for Investigation

The purpose of this article has been to merely further call the attention of both the producers and refiners of petroleum and the natural gasoline manufacturer to the existing situation, which confronts them due to the increased consumption of gas and the extremely probable increase, and to suggest that it should prove more than worth while to them to further investigate it, considering their products have been proven, utilizing some liquids, to be capable of producing gas, in certain localities which can be sold at as low a cost as that produced from coal, and in other cases capable of

(Continued on Page 114)

ACID CONCENTRATORS AT GULF PLANT



Sulphuric acid concentrators at the Port Arthur, Tex., plant of the Gulf Refining Co.

If all gasoline were Dubbs Cracked Gasoline, there would be far less knocking and a lot more pulling

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

H. C. MORRIS NATURAL GAS HEAD; MULLANEY MADE PRESIDENT A. G. A.

ATLANTIC CITY, N. J., Oct. 15.—H. C. Morris, president Dallas Gas Co., was elected chairman of the Natural Gas Department of the American Gas Association at its meeting here today. Other elections were as follows: Vice chairman, H. C. Cooper, chief engineer, Hope Natural Gas Co.; members of managing committee, two-year term, L. K. Langdon, Cincinnati, Ohio; H. L. Montgomery, Bartlesville, Okla.; J. B. Tonkin, Pittsburgh, Pa.; M. W. Walsh, Louisville, Ky.; William Moeller, Jr., Los Angeles, Calif.; George E. Welker, Oil City, Pa.; member of managing committee (one year, to fill unexpired term of H. C. Cooper), J. R. Munce. Pittsburgh, Pa.

H. C. Morris

Ralph W. Gallagher, president of the East Ohio Gas Co., of Cleveland, reported on the question of future separate meetings of the natural gas department, and it was decided to continue these meetings of the department. The question was brought up last May at the annual convention of the department helld in Kansas City. It was proposed to hold the next annual convention of the natural gas department in Tulsa next year in connection with the International Petroleum Exposition and negotiations toward this end will be started at once with an announcement as to the result to be issued later.

Mr. Morris in accepting the chairmanship of the department stated the outstanding problem before the natural gas industry is conservation and recommended the gathering of facts and co-operation with regulatory bodies to prevent waste of natural gas.

If past custom is followed, Mr. Cooper will be elected chairman of the natural gas department at the expiration of the term of Mr. Morris.

It is estimated that 6,000 persons attended the sessions of the American Gas Association at the Municipal Auditorium. Bernard J. Mullaney, vice president, Peoples Gas, Light & Coke Co., of Chicago, was chosen president of the association, and Clifford Paige of Brooklyn, vice president, and Welsh of Staten Island, treasurer.

At the close of 1928 the customers of the gas industry numbered more than 16,000,000, a gain of more than a half million, President Fogg said. The investment in the gas business is estimated at four and three-quarters billion dollars with annual revenues increased nearly 3 per cent over preceding year. Available data on natural gas indicates 8 per cent increase in production in 1928. President Fogg said it is difficult to estimate what proportion is distributed by utilities but it appears the domestic field witnessed a 10 per cent increase in customers and 8 per cent in sales, many new communities being added to lines, Denver, Memphis, New Orleans, etc.

Mr. Fogg, in the president's address, said it is not enough for the gas industry to know it has the cleanest, most efficient fuel but all avenues of information must be used. Decisions during the year by courts and commissions have greatly assisted in enlarging our fields of service to the public by recognition of the justice and equity of the priciple of an adequate customer charge to cover the cost of serving the unprofitable customer. In referring to federal trade investigation Mr. Fogg said the American Gas Association is limiting its evidence to a statement of its organization plans and purposes in which it has justifiable pride in order that no impression should remain upon a partial record that the assiciation is organized or is operated for any purpose other than the interest of members through service to the public.

Judge Theodore Risley, assistant attorney-general of Washington, paid a splendid tribute to the utilities and especially to the gas industry, saying the gas industry is striving not only to conserve important natural resources but also to conserve human effort and labor in homes.

The gas industry, he said, occupies a vital place in the economic and industrial set-up of the the country and holds a trust which can countenance no violation. To supply the homes of America with a vital service is its job and to do this efficiently and economically it needs to keep the industry on the same high plane which it is today.

Lowering of the cost of gas to customers and economies effected in operation which enlarged earnings for gas company investors during the year are two interesting developments mentioned by Major Forward, managing director, who said developments include the spread of natural gas service through long pipe line expansion, of industrial business through research, extension of house heating and growing popularity of gas securities.

H. C. Cooper

EDMUND TAYLOR DIES

CHATHAM, Ontario, Oct. 12.—Edmund Taylor, former president of the Calgary Stock Exchange, died at Calgary recently, aged 58. Mr. Taylor was one of the prominent associates of A. W. Dingman in the drilling of the No. 1 Dingman, the first producer in the present Turner Valley Field.

B. H. WATERS DIES

B. H. Waters, aged 75 years, died Tuesday at the home of his son, M. F. Waters, president of the recently organized Hanlon-Waters, Inc., in Tulsa. Burial will be made at Knobnoster, Mo.

High Spots in Field News

GULF COAST

Fannette Dome possibilities increased by completion of Gulf company well flowing estimated 3,500 bbls. from 4,735 feet, shallowest production yet found.

Refugio added two good wells, one for 1,200 bbls. net oil through half-inch choke and one flowing 802 bbls.

CALIFORNIA

Hearing begun and still in progress on test of gas conservation law.

Major companies and independents continuing conferences on agreement for gas distribution with prospects favorable for adjustment.

SOUTHWEST TEXAS

Magnolia company's well in Guadalupe County, 4 miles northeast of Darst Creek discovery and 1½ miles southwest of Manford discovery, looks like 1,000-bbl. well.

Western Goliad County well showing considerable gas.

KANSAS

Plains Oil Co.'s wildcat in Sedgwick County filled up 1,500 feet in one hour, slopping over second hour. It is 6 miles south of Valley Center Pool and producing from same series.

MICHIGAN

The three Michigan fields produced more than 125,000 bbls. for the week, an average of 17,860 bbls., a new high.

NEW MEXICO

New discovery 12 miles north and west of Jal flowing by heads every one and a half hours.

OKLAHOMA

Oklahoma City Pool makes new high, 72,632 bbls., ending 7 a. m., October 15.

Late News from the Field

KANSAS

Plains Oil Co.'s No. 1 Curry, SE cor. SW SE Sectin 2-27-1w, Sedgwick County, had the Simpson at 3,389 feet, where the hole filled up 1,500 feet with oil in one hour and was slopping over the second hour. The test was a wildcat and was drilled on a 10-acre lease that has been core drilled, together with the surrounding area. It may open another major oil-producing area.

C. B. Davis has completed a dry hole on the east side of Wichita. The test is located in the NE cor. Section 14-27-1, Sedgwick County. It had the Simpson at 3,405-25 feet, where a hole full of water was found. It will be abandoned.

The Wilcox sand is not productive under the entire townsite of Greenwich. Plains Oil Co.'s No. 1 fee, in about the center of the town, found the Wilcox sand at 3,218-25 feet. It had a small showing of oil and a hole full of water. The test is being abandoned.

GULF COAST

HOUSTON, Tex., Oct. 15.—The commercial possibilities of the Fannette Dome, Jefferson County, were considerably increased at the opening of the week with the completion by the Gulf Production Co. of its No. 12 Thomas on the east flank flowing an estimated 3,500 bbls. of pipe line oil daily from sand at approximately 4,375 feet. This is the shallowest production yet found at Fannette, the previous shallowest well being at 4,775 feet, not including workovers. This well is the fifth and largest producer at Fannette. Other wells either were small pumpers to start or dropped off quickly to small producers or went dead soon after completion and at the completion of No. 12 Thomas the field had a daily output of only about 200 bbls.

Refugio added two of its best wells Monday with the completion of Saxet Co.'s No. 1 Powers and Pierson Properties' No. 1 Simpson. The former came in flowing 1,200 bbls. net oil, 5 per cent water, through a half-inch choke from sand at 3,688-3,700 feet. Pressure was 360 pounds. The latter well, which had been deepened from 3,664 feet, where it made 240 bbls., to 2,681 feet, came in flowing 800 bbls. pipe line oil on a half-inch choke with pressure of 260 pounds.

CALIFORNIA

LOS ANGELES, Calif., Oct. 15.—Hearing on test of new gas conservation law has been begun and is proceeding before the court with probability it will occupy several days. The major companies and independents are continuing their conferences over plan for gas distribution with prospects for favorable result.

OKLAHOMA

Oklahoma City Pool produced 72,632 bbls. the last 24 hours ending at 7 a. m., October 15, which is a new high for that

(Continued on Page 148)

A.P.I. WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks—for the week ending October 12 follows:

	(1)	(2)	(3)	(4)
East Coast	100.0	3,426,600	4,429,000	8,798,000
Appalachian	87.6	553,200	795,000	748,000
Indiana, Illinois, Kentucky	98.0	2,108,800	4,027,000	3,687,000
Oklahoma, Kansas, Missouri	89.1	2,153,300	2,326,000	4,233,000
Texas	91.5	4,358,400	4,309,000	13,455,000
Louisiana and Arkansas	97.1	1,362,000	1,842,000	5,172,000
Rocky Mountain	94.7	476,500	1,676,000	960,000
California	98.4	5,079,900	13,120,000	108,155,000
Total United States	95.4	19,518,700	32,324,000	145,208,000
Texas Gulf Coast	100.0	3,424,900	3,651,000	10,158,000
Louisiana Gulf Coast	100.0	928,500	1,392,000	4,425,000

(1) Per cent refinery capacity represented. (2) Crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.

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Oklahoma City Resumes Production

Thirty-Day Shut-In Did Not Harm the Wells. Conservation Movement Slows Up Work in the Seminole Area

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

The daily average production of Oklahoma was 650,000 bbls. for the week ending Saturday morning, October 12. This is a decline of about 9,000 bbls. daily from the previous week.

Friday, October 11, was the last day of the 30-day shut-in period in the Oklahoma City Pool. If the Oklahoma Corporation Commission orders a curtailment of production in Oklahoma City, East Earlsboro, Logan County and the greater Seminole area, the Oklahoma City Pool will maintain full production until the close of October and then join the other pools in the curtailment movement.

Oklahoma City's production for the first two days of the resumption period indicates that the shutting in of these wells did not harm them. In fact it helped the production as the pool made 63,838 bbls. the first day's gauge, from only 14 wells. The next day's gauge was 61,431 bbls. from 12 wells. At this time the field has 20 wells that have reached the pay horizon. These will be put on production as soon as their 30-day shut-in period is ended. The production of the field on September 12, the day the pool was shut in, was 66,146 bbls. from 16 wells, an average of 4,134 bbls. per well. Comparing this figure with the first day's production after the shut-in period, shows an increase in average production per well to 4,555 bbls.

The gauges by companies and leases were as follows:

Company, farm—	Oct. 12	Oct. 13
Coline, Olds	6,626	5,943
Cromwell, Trosper	8,467	8,623
I.T.I.O., A. Bodine	4,944	6,009
I.T.I.O., S. Bodine	532	Off
I.T.I.O., Button	5,665	5,449
I.T.I.O., Fuzzell	16,330	15,886
I.T.I.O., Henning	1,533	974
I.T.I.O., Johnson	16	Off
I.T.I.O., fee	1,904	1,237
Mid-Kansas, No. 1 Foster	3,039	3,080
Mid-Kansas, No. 2 Foster	2,836	2,648
Prairie, Hiddleston	5,310	5,485
Sinclair, Kinter	250	225
W. Franklin, Lowery	6,386	5,872
Total	63,838	61,431

New work in the various pools in the State has slowed down. Only 71 new operations were started last week in Oklahoma, 49 fewer than the previous week.

The Oklahoma City Field has about 165 operations under way, of this total 18 wells are drilling below 6,000 feet. Previous to the time the pool was shut in 19 tests had been completed, three of which were gas wells. Eighteen wells will be completed in the next few weeks and if they average 3,500 bbls. each, the potential production of the pool will be around 150,000 bbls. daily.

The first fire in the south field started October 8 at the Sinclair Oil & Gas Co.'s No. 3 Stamper, SE cor. NW, Section 30-11-2w. It is estimated to be making 100,000,000 feet of gas and 150 bbls. of oil. The well is flowing wild after the fire was extinguished. Same company's No. 1 Stamper was opened Friday, October 11. The well was allowed to produce for the fourth time since the 30-day shut-in period went into effect. It made 4,285 bbls. Same company's No. 2 Stamper, SW cor. NW, Section 30-11-2w, has been shut in at a total depth of 6,420 feet. It is a 35,000,000 or 40,000,000-foot gas well.

The Sinclair Oil & Gas Co.'s No. 1 Stamper will be allowed to flow wide open on October 15, according to Otto Bradford, the umpire in that field. The feasibility of opening the well for 12 hours daily was discussed by company officials and the umpire. Nothing definite was decided.

The Arbuckle lime is expected to furnish the principal oil and gas production in the Oklahoma City area. It is a steeply folded anticline similar to the Marshall and Garber structures. It is an older formation than the Wilcox sand and Simpson lime which furnishes the principal production in the Seminole area.

The acreage that the present wells cover indicates that wells will be productive over an area estimated to be about 1,800 acres. It may extend from 3,000 to 5,000 acres. Oil and gas production is found from 500 to 600 feet in the lime. This condition in some respects resembles that in the Hendricks Pool in Texas and the Garber Pool in Oklahoma.

Sand production lies outside of the area of lime production and had been developed on the south, west and north flanks. Little can be said of its extent at this time. It is believed the water table is flat as the water analyses are the same in all parts of the pool. However, production from the Wilcox sand may be expected as much as 600 feet down the flanks of the anticline.

Some have estimated the pool as having a potential production of 500,000 bbls. daily. With curtailment of production in Oklahoma the field will be held down to an orderly development.

Mid-Kansas Oil & Gas Co. and others' No. 1 Trosper, NE cor. NW Section 19-12-1w, Oklahoma County, made 283 bbls. on the gauge of October 11. It has been shot with 2 quarts and 5 quarts but up to this writing it had not helped the production. Owners planned to give it a heavier shot.

Coline Oil Co.'s No. 2 Olds, C NE NW Section 24-11-3w, was still trying to kill the gas at a total depth of 6,330 feet. Same company's No. 3 Olds, NW cor. Section 24-11-3w, was coring a showing of oil at 6,416 feet.

Indian Territory Illuminating Oil Co.'s No. 1 Foster, C NE SW Section 24-11-3w, is fishing at 6,608 feet. It is also flowing by heads, mostly water.

Mid-Kansas Oil & Gas Co.'s No. 4 Fortson, NE cor. NW NE Section 24-11-3w, blew in making 30,000,000 feet of gas at a total depth of 6,334 feet.

Indian Territory Illuminating Oil Co.'s No. 1 Johnson, NE cor. NW Section 25-11-3w, made 215 bbls. on the gauge of October 11. It is also making 65 bbls. of water. A sand screen was run to the bottom of hole. It apparently reduced the production from this well and it was knocked off at bottom. Same company's No. 1 Watters, NE cor. NW NE Section 25-11-3w, was drilling deeper at 6,610 feet, on October 11. It has 5,500 feet of fluid in hole.

Prairie Oil & Gas Co. and others' No. 1 Sudik, C NE NE Section 8-10-2w, Cleveland County, is drilling at 7,195 feet. This test landed 4¾-inch casing at 7,135 feet.

Daily average production of the Seminole Field for the week ending October 9 was 283,000 bbls., which is a 28,000-bbl. decline. It is estimated that production in this area will continue to show a decline as the drilling wells will be shut down on top of the sand for a 15-day period.

East Little River Pool, which is one of the flush districts in this area, had a daily average production of 26,185 bbls. for the week ending October 9. This is a decrease of 2,190 bbls. from the previous week. One new well was added to the pool, the Mid-Continent Petroleum Corp.'s No. 11 Smith, in Section 5-7-7, Seminole County, which has been making 1,980 bbls. daily.

East Earlsboro extension had a daily average production of 22,985 bbls. from 31 wells in the week ending October 9, which is a decline of 2,890 bbls. The decrease in this pool is due to all leases being prorated 50 per cent of their potential production. The new potential gauge of the East Earlsboro Pool in Section 18-9-6, Seminole County, was taken October 12. The total gauge was 45,152 bbls. The same area made 13,948 bbls. at 7 a.m. on October 13.

Asher Pool had a daily average production of 7,187 bbls. from 21 wells for the week ending October 9. It is a decline of 342 bbls. from the previous week. No new wells were completed last week and the outlook at this time is limited for new production.

St. Louis Pool had a daily average production of 58,634 bbls. from 424 wells. It is the lowest daily average the pool has shown this year. The decline amounts to 2,383 bbls. a day. Two small wells were completed in the pool last week, but they were not of sufficient size to halt the decrease.

Events in the Seminole area were of little interest. Operators are holding back new work in the interests of conservation. The Texas Company's No. 4 Mayhue, NE cor. NW Section 14-9-6, Seminole County, had Viola lime at 4,085 feet, and landed the 6-inch casing at 4,100 feet. This test is south of the Community Pool in Township 9-6 and many are of the opinion that it is running high enough to make a producer.

Greater Seminole Production

The daily average production for the various pools in the Seminole area is shown by the following gauges for the week ending October 9:

Pool—	Wells	Bbls.
Little River	377	82,088
Carr City	57	9,705
Maud	132	10,589
Mission	111	22,294
Bowlegs	295	30,752
Earlsboro	331	76,846
Seminole	273	31,960
East Seminole	26	7,289
Searight	83	11,499
St. Louis	424	58,634
Asher	21	7,187
Sasakwa	27	13,203
Allen	225	24,208
Total	2,382	386,254

Several wells have reached the sand in the East Earlsboro extension and have been shut in for the 15-day period. Magnolia Petroleum Co.'s No. 11 A. Anderson, SW cor. NE SW, Section 18-9-6, is shut down with 3,000 feet of oil in the hole from Wilcox sand at 4,355-61 feet. Same company's No. 12 A. Anderson, NE cor. SE NE, Section 18-9-6, has a show of oil in the Wilcox sand at 4,309-26 feet. Same company's No. 1 P. Anderson, SE cor. NE NE. Section 18-9-6, had the Wilcox sand at 4,385 feet, where it is shut down with a show of oil and gas.

Burbank production has been holding steady for the last few months. The daily average production for the week ending October 12 was 18,460 bbls. including the Kay County extension. Phillips Petroleum Co. recently sold 1,302,000 bbls. of storage oil in the Burbank

(Continued on Page 105)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Bros.' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Shut down 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	Drlg. 2,300 ft.

BECKHAM COUNTY

Kay and others' No. 1 Martin, C E half E half NW Sec. 32-8-24w	Underreaming 1,630 ft.
Producers Exploration Co.'s No. 1 Seidell, SE cor. SW SW Sec. 17-9-22w	Shut down 2,402 ft.
Carson and others' No. 1 Danby, SW cor. SE NE Sec. 20-8-22w	Shut down 1,547 ft.

BLAINE COUNTY

Lowen and others' No. 1 Unknown, NW cor. SW NW Sec. 27-16-11w	Spudded and shut down.
Washoma Oil Co. and others' No. 1 Phillips, C NW SW Sec. 12-19-10w	Shut down 2,880 ft.

CADDO COUNTY

Abernathy & Brown's No. 1 Horton, SE cor. Sec. 8-6-13w	Shut down 535 ft.
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w	Shut down 3,394 ft.

CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1	Rig.
Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w	Shut down 3,130 ft.
Phillips Pet. and T. B. Slick's No. 1 Sudick, NE cor. NE Sec. 8-10-2w	Drlg. 7,180 ft.; 4¾-in. csg. at 7,135 ft.

COAL COUNTY

J. S. Cosden's No. 1 Richardson, C NW NE NE Sec. 6-2-8	Drlg. 3,146 ft.
W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e	Shut down 1,285 ft.
McGinley & Sigler's No. 1 Willsey, NW cor. SE SE Sec. 7-2-8	Shut down 3,016 ft.
E. W. Whitney's No. 1 Brown, C SE NE Sec. 10-2-8	Shut down 202 ft.

COMANCHE COUNTY

Green and others' No. 1 Wilson, C NE SW Sec. 14-1-12w	Shut down 4,055 ft.

GARFIELD COUNTY

Continental and Barnsdall's No. 1 Brown, CNL SW Sec. 10-20-4w	Location.
E. L. Love and others' No. 1 White, SE cor. NW Sec. 9-24-6w	Underreaming 5-in. csg. 5,566 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w	Spudded and shut down.
J. M. Henry and others' No. 1 Abraham, SE cor. NW Sec. 4-5-8w	Rig.

GRANT COUNTY

Gypsy Oil Co.'s No. 1 Belderbeck, C SE SE Sec. 27-28-7w	Drlg. 1,320 ft.
Bailey's No. 1 Stover, C SW SE Sec. 20-27-5w	Rig on ground.
Baucher et al's No. 1 Deadman, SW SE Sec. 12-28-4w	Drlg. 3,400 ft.
Cowden and others' No. 2 Vollmer, CEL NE SW Sec. 22-25-4w	Shut down 5,640 ft.
Otstot's No. 1 Tabor, C NE NE SE Sec. 23-26-3w	Rig.

GREER COUNTY

Helmerick & Payne's No. 1 Henck, NW cor. Sec. 23-6-24w	Fishing 1,650 ft.
I. T. I. O. and others' No. 1 fee, C SW NE Sec. 17-6-24w	Fishing csg. 1,902 ft.
S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26w	Shut down 625 ft.

(Continued on Page 162)

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Oil Conservation in Kansas Extended

Sedgwick and McPherson Counties Are Keeping Surplus Oil in the Ground. Important Sedgwick Tests Are Dry

By W. A. Spinney
Staff Correspondent, Kansas Fields

Production in Kansas for the last week reached a new low when the daily gauges show the State to be making 112,000 bbls. on October 12. This decline in production is mostly in the Valley Center Pool which has been prorated. Valley Center had been making around 28,000 bbls. daily, while during the past week it showed a daily average of around 16,000 bbls.

A new wildcat test to find a showing of oil in Sumner County is the Mid-Continent Petroleum Corp.'s No. 1 Clark, SE cor., Section 31-34-3w. It had the Viola lime at 4,844 feet, where the oil show was encountered. The crew is cementing the 6-inch casing at this depth before drilling deper. It is located about 4 miles northwest of the pool the Gypsy Oil Co. opened on the state line several months ago.

Production in the Ritz Pool, in McPherson County is apparently prorating itself. This pool has been under discussion by operators in the State, but the production is declining at such a rapid rate nothing has been done. The Shell Petroleum Corp.'s No. 1 Ritz, NW cor. SE SW, Section 1-20-2w, made 164 bbls. on the gauge ending at 7 a. m., October 14. This well had been averaging between 700 and 1,000 bbls. up to a few days ago. The same company's No. 2 Ritz, SE cor. SW, Section 1-20-2w, made 139 bbls. the same day. The other producing well in the pool is The Texas Company's No. 1 Munn, NW cor. NE, Section 12-20-2w, McPherson County. It gauged 1,805 bbls. of oil and 525 bbls. of water on October 14, at 7 a. m. Two other tests in the area are drilling in the chat but have not found oil. The Shell Petroleum Corp.'s No. 3 Ritz, NW cor. NE SW, Section 1-20-2w, is drilling in chat at 2,940-67 feet, with a show of water. Dixie Oil Co.'s No. 1 Flack, SW cor. SE NW, Section 1-20-2w, is also drilling in chat at 2,927-30 feet, nothing showing.

Further curtailment of oil production in Kansas was enacted last week when the operators in the area around the Derby Oil Co.'s well in Section 9-21-3w, McPherson County, known as the Voshell Pool, agreed to a shut-in plan. This is the second shut-in plan now in operation in Kansas, the other being the 50 per cent reduction in the Valley Center Pool, Sedgwick County.

It was agreed by all operators in the Voshell Pool, in Section 9-21-3w, not to start any more wells until January 1, 1930, and to shut in the production of the Derby Oil Co.'s well to 50 bbls. a day, effective at once. The Derby Oil Co. is entitled to discovery rights. When new wells are started in January, 1930, operators will not be permitted to complete their wells before April 1. This action further delays bringing new production to the market and prolongs the shutdown period.

The discovery well of the Derby Oil Co., No. 1 Stuckey, NE cor. SE, Section 9-21-3w, McPherson County, was flowing 1,000 bbls. daily before being pinched in to 50 bbls. daily. Twelve other tests are in the drilling stage in the area, only five of which will be allowed to be completed. These will be prorated to 50 bbls. daily upon completion. No new work will be started this year.

It has been agreed that the tests to be drilled into the sand in the Voshell area will be the McBride, Inc.'s No. 1 Voshell, NE cor., Section 9-21-3w, which has been pumping 30 bbls. daily with the hole in bad shape. It will be completed, as well as the test in the SE NE NE of the same section, same company's No. 2 Voshell. This is the lease that was recently purchased from Ted Washabaugh. Sinclair Oil & Gas Co.'s No. 1, NW cor., Section 10-21-3w, east offset to the McBride's No. 1 Voshell. Empire Oil & Refining Co.'s No. 1 Voshell, NE cor. NW NE, Section 9-21-3w. Mid-Kansas Oil & Gas Co.'s No. 1 Voshell, NE cor. NW NE, Section 9-21-3w.

Other drilling tests in the area will be restricted and will not be drilled into the pay sand.

In Sedgwick County

The attempt of the J. S. Cosden, Inc., to extend the Valley Center Pool to the west was a failure. The test was drilled in the NE cor. NW SW, Section 1-26-1w, Sedgwick County. It had a small showing of oil and a hole full of water at 3,371-75 feet. The test indicates the west limits of the pool, which is now 1½ miles wide and 2 miles long.

Another test shows water on the southeast edge of the Valley Center Pool. Bu-Vi-Bar Petroleum Corp. and others' No. 1 Childs, SW cor. NE, Section 7-26-1w, had water after finding a showing of oil at 3,389-92 feet.

Shell Petroleum Corp.'s No. 4-B Lygrisse, on the northwest edge of the Greenwich Townsite Pool, found oil in the chat at 2,897-99 feet. The oil rose 1,300 feet in the hole in six hours. Same company's No. 1-A Lygrisse, on the south edge of the townsite, is shut down at 3,249 feet. It missed the pay in both the chat and Simpson formations. Both of these tests are in Section 15-26-1, Sedgwick County.

Test Near Nebraska Line

A wildcat test 15 miles south of the Nebraska state line in Norton County, Kansas, will be started in the near future. Richards and others staked a location for No. 1 Colby, C SW, Section 17-4-21w. The test is on a 10,000-acre block.

Clay County will be further tested for oil. Crystal Oil Co.'s No. 1 Sieviern in SW cor., Section 19-8-2, will be drilled to the deep horizons. The rig is being built for this test on a block of 6,500 acres. The structure was located by a magnetometer survey.

Wentz Oil Corp. has announced a location for its No. 1 Moore, SE cor. NW, Section 17-28-1, Sedgwick County. The test is 1½ miles west of the Robbins Pool.

Rice County Activity

In southwestern Rice County several new tests are getting under way. Producers & Refiners Corp.'s No. 1 Thompson, SE cor. NW, Section 21-20-10w, Rice County, is building a rig. It is the north offset to the wildcat well recently completed by Tom Slick Oil Co. in the same section, which has been swabbing around 200 bbls. daily from the pay horizon at 3,278-84 feet. Boucher Oil & Gas Co. has a rig up for No. 1 Boy, SE cor. SW, Section 16-20-10w, Rice County, a half mile north of the discovery well.

Bird, Hanley and others' No. 3 Hughes, CNL NW SW, Section 19-21-10, Lyon County, failed to get more than a showing of oil in the Bartlesville sand and was drilling ahead in the lime. This test is only a short distance from the No. 2 Hughes, which drilled in a 400-bbl. well. The operators expected to open a large area in the southwestern part of the county that would be productive.

Aladdin Petroleum Corp. has shot its No. 1 Sharon, SE cor. NW, Section 24-27-3, Butler County, with 70 quarts. It is now swabbing 145 bbls. of oil daily while cleaning out. The shot apparently helped the production. Same company's No. 1 Klinger, a location east of the above well which is also the discovery well, is drilling at 1,600 feet, on October 11. It is located in the NE cor. SE, Section 24-27-3, Butler County.

In the Gorham Pool, Russell County, Midwest Oil Co.'s No. 4 Baxter, SW Section 32-13-15w, was pumping 140 bbls. on the gauge of October 12.

Further development on the west side of the Grenola Pool, Elk County, has resulted in production from what is believed to be the Kansas City lime. Minnehoma Oil & Gas Co. and others' No. 3 Ferguson, C NW SW, Section 3-31-8, Elk County, found a pay horizon at 1,930-47 feet, where it started producing oil at the rate of 30 bbls. an hour.

Butler County

Valley Osage Oil Co. made location for No. 1 Sires, SE cor., Section 34-23-3. Martin and others' rig is up for No. 1 Flanagan, SW cor. SE SW, Section 20-27-3. Empire Oil & Refining Co. made location for No. 4 Hutchinson "C", NE cor. SE NW, Section 34-27-5. Location was also made for No. 1 Marshall "D", NW cor. NE SE, Section 15-27-6. Dixie Oil Co.'s No. 3 Stern, SE cor. NW SE, Section 28-27-6, is a location.

Empire Oil & Refining Co.'s No. 16 Gussman, NW cor. SW NE, Section 18-26-5, has been completed for 100 bbls. in sand 2,592-2,622 feet. Empire Oil & Refining Co.'s No. 86 Koogler, SW cor. NW NE, Section 20-26-5, made 175 bbls. from Viola lime 2,467-2,553 feet. No. 87 Koogler, NE cor. NW NW, Section 20-26-5, made 75 bbls. in sand 2,484-97 feet.

Chase County

Sinclair Oil & Gas Co.'s No. 1 Owens, SE cor., Section 13-21-9, is dry and abandoned at 2,548 feet.

Coffey County

Ellis & Huff's No. 1 Scott, NW cor. SE, Section 13-23-14, made 25 bbls. in sand 1,219-35 feet.

Cowley County

Blankinship Petroleum Co.'s No. 1 Marshall, SE cor. NW, Section 36-30-6, is a rig under construction. Independent Oil & Gas Co.'s No. 1 Swenson, SW cor. NW SW SE, Sec. 15-32-4, is an old gas well rigging up to deepen from 2,991 feet. The Texas Company's No. 15 Eastman, NE cor. SW NE, Section 6-31-6, made 10 bbls. in sand 2,866-76 feet.

Elk County

Ramsey and others made location for No. 1 Ferguson, SW cor. SE, Section 3-31-8.

Ford County

McKnabb & Bess and others' No. 1 Fowler, C SE, Section 26-27-22w, is a rig going up.

Greenwood County

Empire Oil & Refining Co. is erecting the rig for No. 6 Edwards "B", NE cor. SE SE, Section 21-23-11. Dixie Oil Co. and Amerada Petroleum Corp.'s No. 2 Ellis, SW cor. NW NW, Section 27-23-11, is a rig under construction. Phillips Petroleum Co. made location for No. 5 Beal, SE cor. NE NE, Section 28-23-11. Independent Oil & Gas Co. moved the rig in for No. 1 Beal, NE cor. NW, Section 28-23-11. Empire Oil & Refining Co. has the rig up for No. 2 Hillman, CWL NE NE, Section 35-23-11. No. 3 Patterson "C", NE cor. SW SE, Section 36-23-11, is also a rig. Chisler & Mc-

(Continued on Page 135)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

Company, farm and location—	Remarks:
BARBER COUNTY	
Rolland & Skelly Oil Co.'s No. 1 Pickens, C NE NW NE Sec. 27-30-14w	Plug back to 4,727-30 ft. to test; total depth 4,735 ft..
Skelly Oil Co.'s No. 1 Temple Ranch, Sec. 13-34-15w	Drlg. cement 4,945 ft.
Robertson et al's No. 1 Powell, SE cor. SE Sec. 11-32-10w	Drlg. 3,260 ft.
Allison & Fitzwilliams' No. 1 Morrisse, C NW SE SE Sec. 9-30-12w	Drlg. 4,660 ft.
BARTON COUNTY	
Allison & Fitzwilliams' No. 1 Unknown, NE cor. Sec. 19-16-12w	Spudding.
Slick et al's No. 1 Sweeney, SW NE Sec. 23-17-11w	Shut down 250 ft.
Everett & Wiley's No. 1 Ward, NW cor. SW Sec. 12-20-13w	Shut down 3,948 ft.
BUTLER COUNTY	
E. W. Marland, Inc.'s No. 1 Haber, SW NW Sec. 22-27-3	Rig.
Martin et al's No. 1 Flanigan, C SW SE SW Sec. 29-27-3	Rig.
Travis et al's No. 1 Harrison, SE cor. Sec. 21-25-3	Drlg. 3,190 ft.
Milmac Oil Co.'s No. 1 Clearwater, SW cor. Sec. 33-25-3	Drlg. 2,975 ft.
Lario Oil & Gas' No. 1 Gordon, NW cor. Sec. 15-26-3	Shut down 3,236-55 ft.
Sinclair Oil & Gas' No. 1 Johnson, NE cor. Sec. 16-26-3	Drlg. 2,150 ft.
White Eagle's No. 1 Bachelder, SW cor. Sec. 17-25-3e	Drlg. 3,020 ft.
Valley Osage's No. 1 Sirs, SE cor. Sec. 34-23-3	Rig.
CLAY COUNTY	
Derby Oil Co.'s No. 1 Meimueller, C NW SW Sec. 9-10-3e	Drlg. 2,200 ft.
Skow Bros.' No. 1 Strud, SW SE Sec. 16-9-4	Drlg. 2,510 ft.
COWLEY COUNTY	
A. M. Landon's No. 1 Wheeler, C SW NW SE Sec. 24-30-4	Rig.
Milton & Mead's No. 1 Tatum, SE cor. SW Sec. 11-31-6	Shut down 500 ft.
Shawver et al's No. 1 Oldham, NW SE Sec. 23-32-3	Drlg. 1,590 ft.
DICKINSON COUNTY	
Hiatt & Durham's No. 1 Wendt, NW cor. Sec. 17-16-2	Rig.
Kruger et al's No. 1 Diche, C NW NE NE Sec. 17-13-4	Drlg. 630 ft.
DOUGLAS COUNTY	
Jenkins & Scott's No. 1 Haden, SE NW Sec. 10-12-17	Shut down 50 ft.
ELLIS COUNTY	
Streeter & Stearns' No. 1 Leiker, SW NE Sec. 26-13-20w	Drlg. 705 ft.
Mid-West Exploration's No. 36 Berens, C SE NW Sec. 12-13-16w	Drlg. 2,810 ft.
Byrene et al's No. 1 Fisher, NW SE Sec. 4-11-20w	Drlg. 1,000 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w	Fishing 2,555 ft.
ELLSWORTH COUNTY	
Tatlock et al's No. 1 Sackem, C SW SE Sec. 25-17-9w	Shut down 675 ft.
The Texas Company's No. 1 Sherman, NE SW Sec. 16-17-6w	Drlg. 2,965 ft.
FORD COUNTY	
McNabb et al's No. 1 Unknown, C SE Sec. 26-27-22w	Rig.
Swain et al's No. 1 Kenthorne, C NW Sec. 21-25-24w	Shut down 300 ft.
GRAHAM COUNTY	
Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w	Shut down 4,165 ft.
GREENWOOD COUNTY	
F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12	Shut down 50 ft.
T. K. Simmons' No. 1 Steele, SE NE Sec. 22-22-12	Rig.

(Continued on Page 161)

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Mississippi Gas Show Stirs Interest

Test on Jackson Anticline in Rankin County Blows Mud from Hole. Small Gas Show Reported from Alabama

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Oct 14.—A gas show in Mississippi that threatened to clean the hole and required all the reserve mud in the pits to hold it in drew attention away from the Dixie district of Caddo Parish late this week and turned it to Home Oil Producing Co.'s No. 1 Rainey in the NW NW Section 13-5-1e, Rankin County, a wildcat on the edge of Jackson. Thursday afternoon calcitic chalk was noticed in the returns with the bit down 2,509 feet After making 3 feet more hole the driller picked up to get returns and the well started to blow out, sloshing mud up over the rotary. He began pumping heavy mud against the gas at once and a short while later noticed that he was losing returns. Friday morning there was no further show of gas and the rig was shut down waiting for 9-inch casing to set at 2,509 feet.

News of this development created considerable of a stir here and several scouts, geologists and land men left hurriedly for Jackson and opinion seems to be that should the show be followed by a commercial well there will be considerable of a drilling boom in the immediate vicinity and all along the Jackson anticline, as the show came from the Ripley which corresponds to the Monroe gas rock in Louisiana and the well is checking 500 feet higher than Lion Oil Refining Co.'s No. 1 Misterfeldt 4 miles south.

Two other developments served to concentrate attention on Mississippi-Alabama developments. Briggs and Knapp, drilling No. 1 Wefel in Section 25-12-14, Lamar County, northwestern Alabama, a few miles east of the Monroe County, Mississippi, gas, were reported to have run into 10,000 or 15,000 feet of gas with a spray of oil from the top of the Bangor lime at around 1,530 feet. There was enough of the gas to make a flame 8 or 10 feet over the casing. Robinson & Greer, drilling No. 1 Douglas Oil Co., on the Hatchetigbee anticline in Section 15-9-2w, Choctaw County, southwestern Alabama, are drilling at 3,504 feet, approximately 250 feet in sand and shale showing salt water. Comparing the base of the chalk in this well and the total depth of their first well in which they had a small show of oil, they should have topped the sand at 3,477 feet and are, therefore, checking higher than on the first well, No. 1 Long-Bell in Section 28-10-4, Choctaw County, which was abandoned at 3,900 feet.

Big Companies Interested

The Jackson show makes all the Jackson anticline interesting territory especially for Amerada Petroleum Corp., Magnolia Petroleum Co., The Texas Company, The Sun Co. and others. Amerada has two big blocks on the north end of the structure, one in Township 12-2, comprising all the township except the Yazoo City Townsite, and nine sections in the two north tiers of Township 11-2, and the other comprising 25 sections in Township 11-3, both in Yazoo County. It is obligated to drill on the first block and the location probably will be in Section 24-12-2 for a deep test. In addition it has approximately 4,000 acres in mineral rights in the first block.

The Sun company has a block of 7,000 acres in Township 9-2 extending south across Black River into Madison County. The Texas Company, in addition to a block of 7,000 acres farther south on the anticline, has 1,000 acres scattered around Yazoo City, and Magnolia Petroleum Co. has 15,000 acres in leases and minerals scattered through Evans and Hobby's original 175,000 acres covering most of Yazoo County. Adjoining this block on the west Interstate Cooperage Co., controlled by the Standard Oil Co., has a block of 15,000 acres solid in fee in Township 12-4. T. B. Slick also holds 2,300 acres in fee. All the leases held by Evans & Hobby were acquired last winter and are straight 10-year commercial, taken on the strength of geology worked out by W. C. Spooner and checked by the Amerada with seismograph and geophone.

Contractors for the Carter Oil Co.-J. D. Collett's test in Yalobusha County, No. 1 Blackmer in Section 14-11-4, have shipped their rig and are expected to be drilling by November 1. The Texas Company has taken 600 acres on the edge of the Collett-Carter block 3 miles south of this location. Philp Brothers' No. 1 James, Section 20-11-5, Yalobusha County, was drilling a dark hard slate streaked with sand at 3,252 feet on the last report. Lauderdale Oil & Gas Co.'s No. 1 Lackey, Section 2-7-16, Lauderdale County, is arranging to core from 2,786 feet in anticipation of picking up the sand that furnished the show in the Topton well a few miles south at 2,812 feet, which showing led Gulf Refining Co. to back the present undertaking to some extent. Lincoln Oil & Gas Co.'s No. 1 Pat Case, Section 21-8-6, is shut down with the bottom 10 feet in a salt water sand at 1,213 feet. In Monroe County, Amory Development Co.'s No. 1 Bourland has been financed to go deeper from 2,582 feet where it has been shut down for some time.

Dixie District

The Dixie district was as contradictory as ever, with the difference that results were more positive than they were last week. Gulf Refining Co. completed No. 4 Hunter, NE NE Section 17-19-14, flowing 200 bbls. by heads from 5 feet of sand, total depth 2,442 feet, but abandoned No. 5 Oden in the NE NE Section 18 as a salt water hole at 2,430 feet. Testing a small amount of oil at 2,407 feet it drilled to 2,454 feet and was abandoned on account of water only to plug back shortly after to 2,425 feet. After drilling out the cement it bailed 3 bbls. oil and 6 of salt water at 2,430 feet. The Palmer Corp.'s No. 1-A Hunter, also a workover, was completed pumping 25 bbls. from 2,440 feet after prior completion as a 40-bbl. pumper at 2,400 feet. The Texas Company's No. 3 Hunter, SE SE Section 8-19-14, swabbed 200 bbls. oil and some water from 2,448 feet and No. 2, SW SW Section 9-19-14, is waiting for standard rig, total depth 2,440 feet.

Louisiana

	Bbls.
Caddo, light	15,350
Caddo, heavy	3,165
Homer	3,850
Haynesville	4,830
DeSoto-Red River	3,165
Elm Grove	535
Bellevue	640
Cotton Valley	2,510
Urania	5,715
Pleasant Hill	1,040
Sarepta	400
Total	41,200

Arkansas

El Dorado	4,400
Smackover, light	5,800
Smackover, heavy	45,400
Stephens	1,000
Nevada County	1,060
Lisbon	1,175
Champagnolle	5,520
Bradley	85
Total	64,440
Both states	105,640
Last week	108,635
Difference	2,995

Ray-Dawes Drilling Co.'s No. 2-A Hunter, SW SW Section 9-19-14, in the northeast extension of the pool, started off with 100 bbls. through 2½-inch tubing from sand 2,423-40 feet. Gulf Refining Co.'s No. 5 Hunter, NE NE Section 17-19-14, the discovery section, is standing 1,050 feet in oil on top of 350 feet of salt water from sand and shale from 2,300-42 feet and will be standardized. Two wildcats a couple of miles northeast and east of nearest production look as though they might produce. Old River Oil Co.'s No. 1 Sibley in Section 15-19-14, got sand showing oil from 2,452-56 feet and is arranging to set casing at 2,424 feet for a test. S. D. Onyett, trustee, is coring shale at 2,416 feet in

(Continued on Page 122)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

BOSSIER PARISH—CARTERVILLE

Company, farm and location—	Remarks:
Nemours Corp.'s No. 1 Kilgore, 1,310 ft. E. 675 ft. S, NW cor., Sec. 31-23-11	Completed as 37,700,000-ft. gas well at 3,062 ft. Apr. 27, 1928; arranging to deepen.

BOSSIER PARISH—BELLEVUE

H. L. Morgan et als' No. 1 Wetherbee, 200 ft. S, 200 ft. W, NE cor. SW SE, Sec. 21-19-11	Drlg. second hole 1,710 ft; T.D. old hole 1,854 ft.

BOSSIER PARISH—ELM GROVE

Ark.-La. P. L. Co.'s No. 6-B Van Hoose, 2,815 ft. S, 2,650 ft. W, NE cor., Sec. 36-16-12	Tested dry 1,894 and 1,900 ft; estimated 1,000,000 ft. gas 1,917 ft; drlg. 2,320 ft.
La. G. & F. Co.'s No. 3 Skannal, 660 ft. N, 660 ft. W, SE cor. SE SE, Sec. 14-17-12	Began drlg. Sept. 26; cmtd. 12⅛-in. 120 ft; 8-in. 842 ft.
Palmer Corp.'s No. 14-B Hodges, C E½ SW, Sec. 24-17-12	Rig up.
Palmer Corp.'s No. 1 Johnson, C NE NE, Sec. 24-17-12	Rig up.
Palmer Corp.'s No. 1-A J. A. McDade, 2,310 ft. W, 660 ft. N, SE cor., Sec. 12-17-12	Location.

BOSSIER PARISH—GREENWOOD

Eastern Carbon Co.'s No. 1 Z. Abney, Sec. 8-17-16	Rig up.

CADDO PARISH—MOORINGSPORT

C. B. Moore's No. 1 Buckalew, 2,000 ft. N, 1,000 ft. W, SE cor., Sec. 30-20-15	Cmtd. 6-in. 2,171 ft.; bailing to test 12 ft. broken sand; T.D. 2,300 ft.

CADDO PARISH—DIXIE

Eylers Oil & Gas Co.'s No. 1 Sentell, SW cor. NE, Sec. 9-19-14	Derrick.
Sam Gold's No. 3 Hunter, 660 ft. N, 660 ft. W, SE cor. SW NE, Sec. 17-19-14	Began drlg. Oct. 2; 10-in. 102 ft.; drlg. 1,050 ft.
Gulf Ref. Co.'s No. 2 Hunter, 330 ft. W, 250 ft. S, C. Sec. 17-19-14	Completed Aug. 19, flowing 40 bbls. at 2,408 ft; drlg. blue shale 2,445 ft.
Gulf Ref. Co.'s No. 5 Hunter, 990 ft. W, 330 ft. S, NE cor., Sec. 17-19-14	Cmtd. 6⅝-in. 2,400 ft.; drlg. 2,442 ft.
Ohio Oil Co.'s No. 4 Hunter, 330 ft. N and W, SE cor. NW NE, Sec. 17-19-14	Derrick.

(Continued on Page 117)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

NORTH LOUISIANA
BOSSIER PARISH

Company, farm and location—	Remarks:
Corbett et als' No. 1 Murff, SE cor. NE, Sec. 18-17-11	S. D. 990 ft.
Neil & Lanier's No. 1 Biedenharn, SE cor., Sec. 23-21-14	Bailing to test 1 ft. sand.; T.D. 1,015 ft.
G. D. Nesbit's No. 1 Burt, Sec. 20-19-13	Location.
Walker et als' No. 1 Antrim, NW cor. SE, Sec. 28-22-13	S.D. 3,021 ft.; made 57 ft. more hole; tested small show oil; arranging to deepen; T.D. 3,078 ft
Woodmansee et als' No. 1 Bollinger, SE cor. NE, Sec. 9-22-11	S.D. waiting orders 3,532 ft.

CADDO PARISH

D. C. R. Oil Co.'s No. 2 Oden, 892 ft. W, 264 ft. S, NE cor. NE NW, Sec. 20-19-14	S.O.; tested dry 2,445 ft.; S.D.; W O. 2,550 ft.
Haynes Bros.' No. 1 Oden, 1,650 ft. S., 330 ft. W, NE cor., Sec. 20-19-14	Cored sand showing S.W. 2,471 ft.
Lide et als' No. 1 Hunter, 300 ft. S, 200 ft. E, NW cor., Sec. 22-19-14	Cleaning out to reset liner and test 5½ ft. sand; T.D. 2,468 ft.
Lide et als' No. 1 Levee Board, 200 ft. S, 200 ft. W, NE cor., Sec. 24-19-15	Top red beds 2,300 ft.; cg. 2,300 ft.
R. W. Norton's No. 1 Hill, 630 ft. N, 1,260 ft. W, SE cor. NE, Sec. 22-22-16	Drlg. 3,480 ft.
Old River Co.'s No. 1 Sibley, 300 ft. S, 300 ft. E, C, Sec. 15-19-14	Cmtd. 6-in. 2,424 ft.; sand 2,452-56 ft.
S. T. Oynett, trustee's No. 1 Dixon, SW cor., Sec. 10-19-14	Cmtd. 6-in. 2,385 ft.; coring 2,405 ft.
I. N. Pharisa, trustee's No. 1 Oden, NE cor. SE NE, Sec. 16-19-14	Drlg. 2,280 ft.
Standard Oil Co.'s No. 2 School Land, 330 ft. S, 330 ft. E, NW cor., Sec. 16-19-14	Tested dry; show oil and gas 2,441 ft.; drlg. 2,534 ft.
Standard Oil Co.'s No. 3 School, 990 ft. S, 330 ft. E, NW cor., Sec 16-19-14	Cemented 6-in. 2,380 ft.; showed oil, tested dry 2,440 ft.; set 2½-in tubing and packer; flowing 200 bbls. 2,453 ft.
Planters Oil Co.'s No. 1 Pittman, 200 ft. S, 200 ft. E, NW cor. NE, Sec. 23-19-14	Began drlg. Sept 30; cmtd. 10-in. 138 ft.; drlg. 940 ft.
Woodley Pet. Co.'s No. 2-B Knight 50 ft. W, 30 ft. S, NE cor. Sec. 11-15-12	Comp. 4,000,000 ft. gas, 1,935 ft.; cmtd. 4½-in. 2,435 ft.

(Continued on Page 118)

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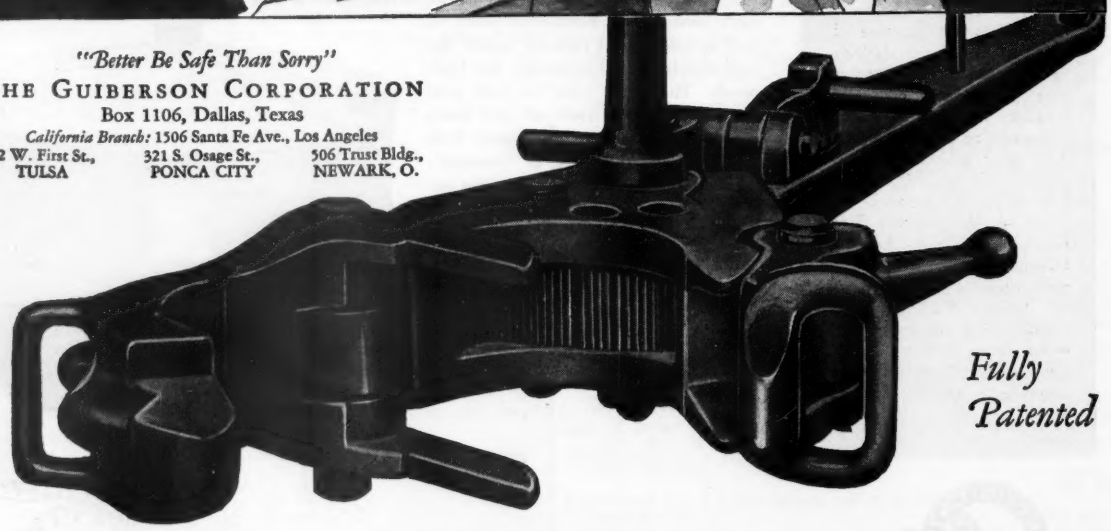

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GUIBERSON

BETTER BE SAFE THAN SORRY — GUIBERSON

Humble Pool Has 7,000 Barrel Well

Largest Completion on Coast for Several Months. Oil Is 42.3 Gravity. Two Good Deep Wells at Barbers Hill

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Oct. 14.—Chief among completions in the Gulf Coast area the past week was The Texas Company's No. 269 Landslide in the deep sand area on the south side of the Humble Dome. Flowing at the rate of 7,000 bbls. of pipe line oil daily, the largest well brought in on the coast in many months, it gave further indications that the development which has been going on around Humble still has not exhausted the possibilities of additional prolific production as might have been judged from the string of small wells and unsuccessful tests completed in that area recently.

The Texas Company's gusher originally was completed with an initial production gauging better than 4,700 bbls. daily but, after several days' flow during which time production fell off to around 1,100 bbls., the well took on new life and increased its output to approximately 7,000 bbls. The hole has 362 feet of 6⅝-inch screen set at 5,181 feet with the bottom of the hole at 5,210 feet. The oil, like the other deep production, is high gravity, being 42.3 degrees at a temperature of 86 degrees. Pressure of the well is 750 pounds.

This deep development south of Humble also yielded four other wells during the week but these were small. The Texas Company's No. 268 Landslide looked like a good producer when it was completed for 1,000 bbls. at 5,337 feet but this flow soon dropped to around 170 bbls. daily. The latter well takes in 264 feet of sand. The same company's No. 266 Landslide is making 40 bbls. at 4,960 feet, and No. 267 Landslide 73 bbls. at 5,356 feet. Humble Oil & Refining Co.'s No. 4 Williams came in flowing 240 bbls. at 4,348 feet.

Humble also got another small well, Harvey Smith's No. 1 Ward (Rosenthall), but this is in an older part of the field and has necessitated considerable working on for several months after originally coming in estimated as flowing at the rate of 1,500 bbls. daily for a short time. It now is pumping 100 bbls. daily from sand at 4,205 feet. The development of the deep sands south of Humble continues one of the most active plays on the Gulf Coast.

Deep Wells at Barbers Hill

Another of the coast's most active plays, that on the east and southeast side of Barbers Hill, Chambers County, resulted in two more good deep wells. Humphreys Corp.'s No. 4-H Kirby came in the middle of the week flowing 1,800 bbls. of pipe line oil daily through a five-eighths-inch choke from sand at 5,054 feet. Superior Oil Corp.'s No. 1 Hooks-Collier Saturday was flowing 900 bbls. daily with two joints of screen at 5,076 feet. Saturday 24 rigs were running actively at Barbers Hill with three preparing to test the deep oil sands.

Saxet Oil Co. late in the week completed its No. 4 Herman on the southwest side of Pierce Junction flowing 900 bbls. daily from sand at approximately 4,615 feet. This followed the completion by the Rio Bravo Oil Co. in its pool on the west side of the dome of two small wells, No. 14-A Settegast, flowing 300 bbls. daily at 5,070 feet, and No. 7-A Settegast, pumping 100 bbls. daily at 4,300 feet. The latter is a workover and the former is the well which blew out and caught fire several months ago.

What looks like a new deep producing sand on the east side of Pierce Junction was found by T. G. Shaw's No. 2 Dooley, which at a total depth of 5,906 feet flowed for a short time at the rate of 20 bbls. of fluid hourly. This well did not last long and before it stopped flowing was making around 90 per cent b.s. and water. A total of 220 feet of 3-inch screen was set in the hole. The well had a pressure of 1,800 pounds.

Good Well at Refugio

The Saxet company added another good well to the growing list of producers at Refugio. This well, No. 10 Clint Heard, is flowing at the rate of 350 bbls. daily of pipe line oil through a half-inch choke from sand at 3,674-82 feet. At Raccoon Bend, Austin County, Humble Oil & Refining Co. and Valley Oil Corp.'s No. 3-A Bracey is flowing 400 bbls. daily at 3,481 feet, and at Old Hackberry, Yount Lee Oil Co.'s No. 1 Lacey was completed for 200 bbls. daily at 3,300 feet.

Other completions of the week were Yount Lee Oil Co.'s No. 113 McFaddin, south of Spindletop, flowing 800 bbls. daily at 4,000 feet; Humble Oil & Refining Co.'s No. 11 Hooks-Spell, Hull, flowing 300 bbls. daily; Gulf Production Co.'s No. 52 Phoenix, Hull, flowing 800 bbls. at 4,100 feet; and Sinclair Oil & Gas Co.'s No. 5 Gailliere, Orange, pumping 100 bbls. of fluid, 10 per cent oil.

Shell Petroleum Corp.'s No. 3 Wilbert, a wildcat on the Whitecastle Dome of Iberville Parish, Louisiana, is flowing a small amount of oil with a large quantity of fluid but it does not look like a commercial producer. Production of the wildcat is estimated at 515 bbls. of fluid daily of which 10 per cent is oil. This is from a deep sand at 5,836 feet. Temperature of the well is 90 degrees and the gravity of the oil is approximately 20 degrees. The sandy shale being tested is a formation passed up by the test which drilled to a total depth of 6,029 feet into sand and sidetracked to come back to the sand.

Although this is the most oil yet found at Whitecastle, the other two tests also encountered favorable showings, tests of which, however, proved unsuccessful. The dome itself was proved by the first test, No. 1 Wilbert, which drilled into salt at 2,330 feet. No. 2 Wilbert, a deeper test, also found cap rock at a total depth of 4,218 feet. No. 3 Wilbert was drilled farther out from the dome and is the deepest of the three. Whitecastle is one of the earlier geophysical discoveries, being found by the Shell Petroleum Corp. (then known as Roxana Petroleum Corp.) in 1927.

Lost Lake

At Lost Lake, Chambers County, Pure Oil Co. has deepened its No. 1 Mayes, a former gasser at 2,071 feet, to the oil sand found productive by Nos. 2 and 3 Mayes and at a depth of 2,839 feet is preparing to set casing to test. This well is expected to make as good a producer as No. 2 Mayes, which flowed at the rate of 1,300 bbls. daily for a time and at present is flowing better than 500 bbls.

With production already proved at this dome, Pure Oil Co. is proceeding with a more active development of the field. The company has purchased a dredge to dredge canals to various locations to facilitate this new work and permanent and adequate facilities are being provided for a very thorough drilling program. Saturday five rigs were running and two other tests were rigged up ready to start work.

With these exceptions there was very little of interest in coastal operations the past week. For the past month work has been unusually quiet generally, most reports consisting of routine drilling. No new dome prospects have been made known in several weeks although there seems to be no cessation in the amount of geophysical exploration going on. The exploration still continues general over the entire coastal territory. That much new drilling will have to be started within the next few months is assured by the fact that many leases taken some time ago on the many new dome prospects discovered, soon will begin to expire.

Daily Average Production

Daily average production of the Gulf Coast fields fell off sharply the past week due to substantial declines in several of the principal producing fields. Figures for the week ending October 12 are:

GULF COAST PRODUCTION
Texas

Allen	10
Barbers Hill	19,535
Batson	1,273
Big Creek	4,585
Blue Ridge	2,639
Brenham	300
Boling	1,476
Clay Creek	2,025
Damon Mound	490
DeWalt	11,236
Fannette	233
Goose Creek	5,731
High Island	1,676
Hull	10,184
Humble	6,513
Jasper County	10
Lost Lake	705
Markham	390
Nash	540
North Dayton	445
Orange	2,834
Orchard	40
Pierce Junction	9,955
Port Neches	2,190
Refugio	8,875
Raccoon Bend	8,517
Sheeks	259
Saratoga	1,001
Sour Lake	2,958
So. Liberty-So. Dayton	6,065
Spindletop	23,522
West Columbia	6,302
Total Texas Coast	142,024
Week ending October 5	149,834
Decrease	6,810

South Louisiana

Anse La Butte	50
Bayou Bouillon	138
Bayou Blue	20
Black Bayou	45
Dog Lake	20
Edgerly	532
Jennings	1,730
Hackberry	5,060
Lake Barre	1,050
Lake Pelto	438
New Iberia	50
Port Barre	90
Sorrento	73
Starks	334
Sulphur	8,500
Sweet Lake	20
Vinton	4,265
Welsh	600
Total Louisiana Coast	23,115
Week ending October 5	23,390
Decrease	275
Total Gulf Coast	166,139
Week ending October 5	173,224
Difference	7,085

GULF COAST FIELDS AND WILDCATS

Week Ended October 12

BARBERS HILL—CHAMBERS COUNTY

Joe Bashara's No. 1 Tarbutton, east side	Pulling screen.
Mills Bennett Production Co.'s No. 1 Collier (southeast)	Running packer and seal 5,490 ft.
Mills Bennett Production Co.'s No. 1 Barber (north side)	Aband. in shale 5,608 ft.
Mills Bennett Production Co.'s No. 2 Barber, north side	Location.
Mills Bennett Production Co.'s No. 3 Smith (workover)	Drlg. sand 5,178 ft.
Mills Bennett Production Co.'s No. 4 Smith, east side	Location.
Mills Bennett Production Co.'s No. 3 Hammon-Armstrong (southeast)	Derrick.
Grayburg Oil Co.'s No. 1 Wilburn, southeast	Sand and shale showing oil 5,037 ft.; cem. 6⅝-in. casing 5,005 ft.
Gulf Prod. Co.'s No. 1 Wilburn	Drlg. hard sand 1,896 ft.
Humphreys Corp.'s No. 3-A Kirby, north flank	Fishing 6,440 ft.
Humphreys Corp.'s No. 4-H Kirby, east side	Comp. flowing 1,800 bbls. pipe line oil 5,054 ft.
Humphreys Corp.'s No. 5-H Kirby, east side	Cem. casing 5,039 ft.
Humphreys Corp.'s No. 6-H Kirby east side	Drlg. shale and lime 4,369 ft.
Humphreys Corp.'s No. 7-H Kirby, east side	Drlg. lime 2,826 ft.
Humphreys Corp.'s No. 2 Kirby	Drlg. water sand 2,312 ft.
D. B. McDaniels' No. 3 Woodward	Drlg. gumbo 2,655 ft.
Rexal Oil Co.'s No. 3 McLean, east flank	Trying to plug off water at 5,170 ft.
Sinclair Oil & Gas Co.'s No. 1 McKinney (southeast)	Pulling screen and liner.
Sinclair Oil & Gas Co.'s No. 1 Wilburn (southeast)	Setting screen 5,227 ft.
Sun Oil Co.'s No. 1 McKinney (southeast	To deepen.
Sun Oil Co.'s No. 2 McKinney (southeast)	Drlg. hard sand 5,650 ft.
Sun Oil Co.'s No. 1 Wilburn (southeast)	Cutting screen and liner.
Sun Oil Co.'s No. 2 Wilburn, southeast	Derrick.
Sun Oil Co.'s No. 1 J. Wilburn	Drlg. shale 4,794 ft.
Superior Oil Corp.'s No. 1 Hooks-Collier, southeast	Comp. flowing 900 bbls.; set 2 joints screen 5,076 ft.
Superior Oil Corp.'s No. 2 Hooks-Collier, southeast	Cem. casing 5,010 ft.
The Texas Company's No. 1 Wilburn (southeast)	Drlg. shale and boulders 3,353 ft.
The Texas Company's No. 2 Wilburn, southeast	Drlg. gumbo 1,533 ft.
The Texas Company's No. 3 Wilburn, southeast	Drlg. sand and lime 3,132 ft.
The Texas Company's No. 1 fee	Drlg. rock 1,510 ft.
Yount Lee Oil Co.'s No. 8 Chambers, south	Tested salt water 4,711 ft.; pulling liner to deepen.
Yount Lee Oil Co.'s No. 9 Chambers, south	Rig.
Yount Lee Oil Co.'s No. 1 Kirby, southeast	Drlg. hard sand and shale 7,181 ft.
Yount Lee Oil Co.'s No. 2 Woodward (southeast)	Comp. flowing 2,700 bbls. oil 5,154 ft.
Yount Lee Oil Co.'s No. 3 Woodward (southeast)	Drlg. shale and lime 4,540 ft.
Yount Lee Oil Co.'s No. 4 Woodward, southeast	Rig.
Yount Lee Oil Co. No. 5 Woodward, southeast	Rig.

BOLING—FORT BEND AND WHARTON

Sun Oil Co.'s No. 9 E. C. Farmer	Drlg. sand rock 1,365 ft.
The Texas Company's No. 2 Pleasants, northwest	Drlg. sticky shale 5,038 ft.
Vacuum Oil Co.'s No. 3 Taylor, south side	Aband. 4,088 ft.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 3 Mitchell	Rig.
Humble & Valley's No. 5-A Walton	To pump 3,290 ft.
Humble & Valley's No. 5-A Deitrichs	Cem. setting 3,578 ft.; oil sand.
Humble & Valley's No. 6-A Dietrichs	Drlg. shale 981 ft.
Humble & Valley's No. 7 Dietrichs	Rig.
Humble Oil & Refg. Co.'s No. 8-B Dietrichs	Derrick.
Humble & Valley's No. 9 Dietrichs	Derrick.
Humble Oil & Refg. Co.'s No. 1 Dimear	Sand and shale 2,730 ft.
Humble & Valley's No. 1 Graneau	Cem. setting 3,234 ft.
Humble & Valley's No. 4 Belleville School	Hard sticky shale 3,017 ft.
Humble & Valley's No. 3 Woodley	Pulling tubing 3,170 ft.
Humble & Valley's No. 2-A Grawunder	To pump 3,335 ft.
Humble & Valley's No. 3 Grawunder	Drlg. shale 2,505 ft.
Humble & Valley's No. 4-B Grawunder	Drlg. 1,192 ft.
Humble & Valley's No. 5-B Grawunder	Derrick.
Humble & Valley's No. 6-B Grawunder	Rig.
Humble & Valley's No. 7-B Grawunder	Rig.
Humble & Valley's No. 10-B Grawunder	Rig.

(Continued on Page 70)

Two Extensions in the Laredo District

Major's Well Fills Gap Between Albercas and Henne-Winch-Fariss Pools and Trapshooter Reilly's Stretches Field to the South

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Oct. 14.—Wildcat news is practically the only kind of oil news in Southwest Texas that is attracting much attention, counting the Darst Creek area as still wildcat. In the Laredo territory there were two extensions in the last week. One was in the area between the Albercas Pool on the north and the Henne-Winch-Fariss Pool on the south, where A. W. Major got an oil well at regular depth which helps to fill up the gap between the two fields. The other was on the south end of the Schoolfield-O'Byrne Pool where Trapshooter Reilly extended the field a quarter of a mile south and brought in the No. 1 Hahl, the farthest south well in the field and good for about 100 bbls.

The Sinclair Oil & Gas Co.'s No. 1 Koepp with a showing of oil in the Austin chalk will get the attention of the industry for the next several days. It is in western Guadalupe County where Sinclair recently drilled the No. 1 Ed Tewees a little north of New Berlin and got a dry hole with the chalk lower than in a line of dry holes off to the south a mile or more. Being northwest of the line of the other tests and up the dip, it should have picked the chalk up higher if formations had been running regularly. The company's geologist then moved a little to the southeast and has picked the chalk up higher than in the No. 1 Tewees and higher than in the line of wells to the southeast. Total depth is now 1,528 feet and the Austin chalk will be tested for production before drilling to the Edwards lime. The well is designed primarily to test the Edwards lime. A little production in the Austin is not proof that there is anything in the Edwards, but it makes a wildcat well look much more interesting.

No. 1 C. M. Wells Getting Attention

Another wildcat in that part of Southwest Texas that is attracting attention is the Grayburg Oil Co.'s No. 1 C. M. Wells, now down around 1,400 feet and drilling. It is approaching the depth where some line should be available soon on how it is running.

With the two dry hole offsets to the Simms Oil Co.-R. R. Penn's No. 1 Manford abandoned and no new drilling started yet around the two producing The Texas Company wells in the Darst Survey in eastern Guadalupe and north of the Grayburg test, the only thing left drilling near the line from The Texas Company wells and the Joe Bruner Field on the northeast is the Magnolia Petroleum Co.'s No. 1 Appling. This well is almost exactly midway between the two Texas producers in the Darst Survey on the southwest and the southwest end of the Bruner Field on the northeast, being 9 miles from either point. The Magnolia's No. 1 Appling late last week was drilling a little below 2,500 feet and still in shale and beginning to get low.

West of the Darst Creek area T. H. Poole's (Eugene Sight) No. 1 Behring succeeded in completing its fishing job reported last week and at 2,302 feet got the top of the Georgetown. It had topped the chalk at 1,983 feet and is still looking as good as it did last week.

Smi-lock Oil Co.'s No. 1 Muenster in the Silas Fuqua Survey in Caldwell County, 4 miles southeast of the Bruner Field, has been abandoned at 3,375 feet with top of the chalk at 2,915 feet, and elevation 343 feet. Formations seem to be normal there. It is about on a northeast-southwest line with the Keiffer No. 1 Dix, the Shell Petroleum Corp.'s block in the Denmann acreage and the Grayburg Oil Co.'s test on the Wells tract, all of which are off to the southwest.

Important Wildcats

Scattered over Southwest Texas are other wildcat tests that are developing interesting situations. E. G. Potter's No. 1 Watson several miles south of San Antonio in Bexar County late last week was moving out 6⅝-inch casing to test the Edwards lime, bottom of the hole being at 2,309 feet and top of the chalk at 1,990 feet. Casing will be set at the top of the chalk and the test will be made of all the lime formations below that.

Moore-Jauer's No. 1 Ellison west of San Antonio and in Bexar County late last week was bailing at 1,714 feet after having set casing at 1,650 feet. There is an odor of gas. The bottom of the hole is in the Trinity.

On the coast at Rockport in Aransas County the United North & South Development Co. is down 5,188 feet in shale. There is some question as to the identity of the formation, but it is shale. There is no intention of stopping drilling. The test is rigged up with one of the heaviest rotaries made and it will keep going as long as drilling is possible and there is any chance.

In the Pettus Area

In the territory running northeast from Pettus in northern Bee County and in the territory where "highs" are looked for based on the Lagarto formation there are several important tests, but none has developed any startling news the last week. F. P. Zoch's No. 1 J. Kauffman in Goliad County, a few miles northeast of the Mission Drilling Co.'s production at Pettus, is down around 2,600 feet and last reported to be drilling in gumbo. Production at Pettus was at about 2,900 feet.

Compton Oil Co. has the derrick for a test several miles due north of Goliad in Goliad County. Mission Drilling Co.'s No. 3 Ray in Goliad, 3 miles east of its No. 2 Ray gas well, is down 4,862 feet and tested salt water at 4,850 feet.

In Karnes County, Benedum & Trees' No. 1 S. E. Crews in the Britton Odem Survey, is down 2,235 feet and in DeWitt County Gibson & McIntyre are down 1,580 feet. Other tests listed in that area are either just starting or shut down for one reason or another.

Maverick County

There is no change of importance in the Maverick County situation. The Rycade Oil Corp.'s No. 3 Chittim is producing about 10,000,000 feet of gas and 20 bbls. of light oil at a total depth of 5,611 feet. Partly due to the production the Rycade has in Maverick County and partly to other reasons, there is a lease play in the territory through northern Zavala and northern Frio Counties and southern Uvalde and southern Medina. This lease play is only starting and is in its infancy, but it forecasts a line of development that may be expected in six months or so from now.

Laredo District

In the Laredo district, A. W. Major's No. 1 Holbien is an oil well. It is in the NE cor. of Block 6, Share 3, of the Las Animas grant and there is room for one location for the Rycade Oil Corp. on its Yeager-Strohman lease north of Major and between his well and the last well of the Rycade. Shankle has two wells a little southwest of his and it looks as though the Albercas Pool at this point is going to veer off to the southwest and run into the Henne-Winch-Fariss Pool. Mr. Major will probably move west for his next location.

In the Schoolfield-O'Byrne Pool in northwestern Duval County Trapshooter Reilly's No. 1 Hahl, a quarter mile south of production is a 100-bbl. well at 2,340 feet and he has made a location for another alongside of it. S. & O. Oil Co.'s No. 5 Bowe on the west side of the same pool is a small oil well at 2,338 feet.

New locations have been made in the Laredo district and among them L. M. Holden has one for the No. 4 Jones in Jim Hogg County in the Diego Hinojosa grant east of Hebbronville, where he drilled tests a few years ago and developed interesting information and good showings of oil and gas.

In southwestern Brooks County Milam Drilling Co. (W. G. French) is drilling the seventh formation test on the Riley Allen tract and after the completion of it and one more will start on the two deep tests to be drilled on the block.

Coast Country

In the Corpus Christi country J. B. Southers and Herman Grimm have the derrick up and rig moved in for a test in western Nueces County, 6 miles northwest of Robstown and 11 miles northeast of the Agua Dulce gas field in Block 79 of the A. R. Roberts Subdivision. The magnetometer was used on the block as well as surface geologic work in making the location.

The Agua Dulce Oil & Gas Co. has completed the No. 2 Wolters in the Agua Dulce Field as a gasser. Gas runs from that field have been held up for a few days waiting for the arrival of higher pressure test valves, several of those first put on having blown off.

Sun Oil Co. has completed a block in San Patricio County northwest from White Point gas field and surrounding the town of Odem amounting to about 5,000 acres. It is immediately west of a block on which J. T. Laprade last winter drilled a 3,500-foot dry hole. The LaFeria Oil & Gas Co. has a block west of it and south of the LaFeria block across the Nueces River is the John Sigmund block where he has a test down pretty well at this time.

There is understood to have been royalty play in western Guadalupe County around the Sinclair Oil & Gas Co.'s No. 1 Koepp which has been reported having the chalk somewhat high. The location is just north of New Berlin. Prices are understood to have been as high as $80 base.

Production by Fields

Branyon	33
Bruner	39,383
Dale	469
Darst Creek	1,971
Gonzales	5
Kingsville	554
Larremore	161
Luling	10,905
Lytton Springs	994
McMullen	45
Medina	24
Mirando	9,937
Somerset	1,769
Yoast	1,032
Total	67,273
Week ending October 5	70,182
Difference	2,909

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ARANSAS COUNTY

United North & South Dev. Co.'s No. 1 Kate Edwards, Lewis Sur. ..... Drlg. 5,107 ft.

BASTROP COUNTY

Jim Harper and others' No. 1 R. R. Mitchell ..... Dropped from reports.
Hadley Oil Co.'s No. 1 F. Kiel, R. H. Grimes Sur., 150 ft. E line, 1,000 ft. S line ..... Drlg. 2,980 ft.
Howell Oil Corp.'s No. 1 F. Wichman ..... Dropped from reports
Humble Oil & Refg. Co.'s No. 1 Hendris, L. G. Lentz Sur., 150 ft. N and E lines ..... Dropped from reports.
Humble Oil & Refg. Co.'s No. 2-A Hayward, S. S. Wolfenbarger Sur., 35 ft. S of 1-A ..... Dropped from reports.
Humble O. & R. Co.'s No. 1-A Wolfenbarger, S. Wolfenbarger Sur. ..... Dropped from reports.
Moore & Ortman's No. 1 Ortman, Andrew Graham Sur... Dropped from reports.
E. W. Ogden's No. 1 Goodman ..... Dropped from reports
Pacific Oil & Gas Co.'s No. 1 Darnell & Bickler, Martha Baker Sur. ..... Shut down 2,030 ft.
Sun Oil Co.'s No. 1 F. Anderson, M. Green Sur. ..... Abandoned 1,840 ft.
Superior Oil Co.'s No. 1-A Watson, A. Martinez Sur., 600 ft. E line, 240 ft. S line ..... Dropped from reports.
Superior Oil Co.'s No. 1-A Hayward, I. P. Wallace Sur... Dropped from reports.
Superior Oil Co.'s No. 1-A J. D. Owens, J. Wright Sur. .. Dropped from reports.

BEE COUNTY

Houston Oil Co.'s No. 1 McKinney, L. C. Randolph Sur. ..... Drlg. 1,075 ft.

BEXAR COUNTY

Guy S. Fisher's No. 1 S. L. Beck, P. W. Hays Sur. ..... Drlg. 580 ft.
F. H. Eckert's No. 1 Sandemer, Sur. 52 ..... Drlg. 540 ft.
F. H. Eckert & Son's No. 1 Bonewicz, Sur. 5, 150 ft. S and W lines ..... Dropped from reports
Penn-Tex Oil Co.'s No. 1 Kate May, F. R Desauge Sur. No. 134 ..... Drlg. 750 ft.
Hamilton & Kennon's No. 1 Hamilton, near Gas Ridge .. Drlg. 1,670 ft.
Moore-Jauer's No. 1 Holly R. Ellison ..... Waiting on csg. 1,714 ft
C. J. Le Compte's No. 3 R. Diaz, J. M. Urrigas Sur. .... Dropped from reports
Leon Oil Co.'s No. 1 Reiniger, 300 ft. E line, 215 ft. S line ..... Drlg. 1,350 ft.
E. G. Potter's No. 1 Watson, B. Martinez Sur. ..... Coring 2,550 ft.

BLANCO COUNTY

J. Bekning's No. 1 Butler, Butler Sur. ..... Dropped from reports.
J. E. Forbes et al's No. 1 Bruckner ..... Dropped from reports.
Ashe & Marshall's No. 1, 5 mi. S Johnson City ..... Erecting derrick.

BROOKS COUNTY

A. W. Deinn's No. 3 J. G. Ramos, La Mestina Sur., Blk. 1, 2,700 ft. E line, 2,100 ft. S line ..... Location

(Continued on Page 120)

PRODUCERS COMPLETED

Caldwell County

Al Buchanan's No. 1 Cude 21 acres. William Spiller Survey, total depth 2,111 feet; estimated 75 bbls.

Duval County

Magnolia Petroleum Co.'s No. 8 Hahl. Survey 250, Block 24, total depth 2,338 feet; 75 bbls.

C. E. Long's (Shell) No. 1 C. W. Hahl, Survey 280; total depth 2,340 feet; 100 bbls.

S. & O. Oil Co.'s No. 5 Bowe, Survey 250; total depth 2,338 feet; 10 bbls.

Jim Hogg County

A. W. Major's No. 1 Holbein, Block 5, Share 3, Las Animas grant; total depth 2,144 feet; 50 bbls.

ABANDONED TESTS

Guadalupe County

Shell Petroleum Corp.'s No. 1 Denman, Ira Nash Survey; core drilling will not be reported.

Simms Oil Co.'s (Penn) No. 2 Man-

(Continued on Page 122)

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to all Engineers, Superintendents and Oil Men

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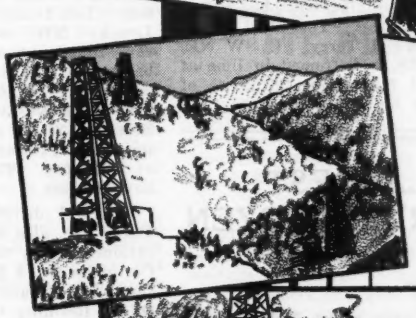
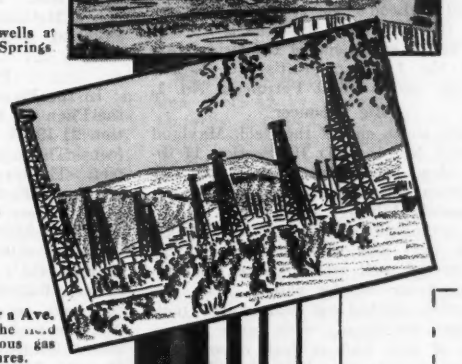


Pico Canyon—where the first Pacific Coast oil well was drilled in 1876.

Burning wells at Santa Fe Springs.



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Hobbs and San Simion Pools Run Even

Considerable Leasing in Eastern Colorado. New Test Spudding on Beaver Dome, Idaho. Salt Creek Bids Delayed

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Oct. 14.—The Hobbs Pool in Lea County, New Mexico, with five producing wells and six new locations, announced, is the hot spot in the news from that state, the important question being now what is to be done with the oil and whether an unrestricted campaign of drilling offsets is about to be inaugurated. Production at present is going into storage. The San Simion district, where the completed wells are being produced at capacity, is running about even with the Hobbs Pool in new locations, most of which are offsets to Cranfill & Reynolds' No. 1-B State. Two new locations in the Jal district also were announced. The Continental Oil Co. has a 35,000,000-foot gasser in its No. 1 William Meyers, in the Eunice district, but will drill deeper. Eddy County had no new locations or completed wells to report.

Considerable leasing is taking place in eastern Colorado by some of the major companies, but no new tests have been announced pending the completion of the wildcats now drilling in that area. The Midwest's Chimney Creek test in Routt County ran into water in what is believed to be the objective Sundance sand.

Another serious accident was reported in Wyoming when the Kinney-Coastal Oil Co.'s No. 1 Dykeman, on the Pilot Butte Dome, blew in as a 30,000,000-foot gasser, killing one of the crew and opening what may prove to be a new light oil pool. The awarding of the lease on Section 36, state land, in Salt Creek, has been delayed by the State Land Board, until after bids for the royalty oil are opened on October 21.

A new test in Idaho commenced spudding on the Beaver Dome in Clark County, 70 miles north of Idaho Falls.

NEW MEXICO

The Hobbs Pool, in Lea County, New Mexico, is receiving considerable attention from the operators who are speculating as what is going to happen. There are at present five producing wells in the field extending from the Humble Oil & Refining Co.'s No. 1 Bowers, C NE SE, Section 30-18-38, on the northwest, to the Midwest Refining Co.'s No. 24 Leach, NE SE NW, Section 15-19-38, on the southeast, a distance of approximately 5 miles. Four wells are drilling, including two of the producers not yet listed as completions, and locations for six others have been announced with several offset locations yet to be made. Three of the producers were drilled by the Midwest, one by the Humble Oil & Refining Co., and one by the Walker Oil Corp. These wells are expected to make around 500 bbls. a day on an average. There is no big flow of gas with the oil and as a result big gushers like those found in West Texas are not expected. However, with a developed production of 2,500 bbls. a day and prospects that this will be increased rapidly with new completions, unless some plan is worked out to restrict the drilling of offsets serious study is being given to the situation.

So far the field has no pipe line facilities and the oil is going into storage. The Humble Pipe Line Co. made a survey for an extension of its Winkler County line, which now has a branch up into the Jal district, to the Hobbs Pool, but that company has definitely announced it will not build at this time. The Texas Pipe Line Co. has a line to its No. 1 Beulah Lynch well in the San Simion district, 25 miles to the southwest, and the Walker Oil Corp. has asked that company to make connections and take its oil. No answer, as far as known, has yet been given but if this line is built, it probably will take the Midwest's production and result in all the wells being produced. The wells in the San Simion and Jal districts are being produced at capacity. There is some talk that the Shell Corp. may build a line into the new district, but nothing definite has developed and this is looked upon more as a possibility than a probability. There is not enough oil in sight at this time to cause any uneasiness, but the area of the pool has not yet been defined and if drilling goes on without restriction, the situation may become more serious.

Lea County

Several new locations in Lea County, southeastern New Mexico, were announced this week, bringing the number of active operations up to around 35, the largest since prospecting began several years ago. Heretofore the drilling has been mostly for the purpose of locating the pools, but now there is considerable offset drilling in progress and in prospect and that means more oil. The scene of the most intense drilling in the Hobbs area is in the vicinity of the Walker Oil Corp.'s No. 1 Terry, NW SW SE, Section 10-19-38. This well, which flowed an average of 430 bbls. a day at 4,155 feet, is being deepened and at 4,175 feet it is averaging 410 bbls. a day. Locations in this section include the following: Midwest Refining Co.'s No. 13 Terry, SE NE SW, Section 10-19-38, digging cellar; same company's No. 24 State, NE SE SW, Section 10-19-38, rigging up rotary; Shell Petroleum Corp.'s No. 1 B. L. Thorpe, SW NW SE, Section 10-19-38, moving in; and Walker Oil Corp.'s No. 2 Terry, SW SW SE, Section 10-19-38, one location to the south of its producer, moving in. The Sun Oil Co. has made a location for its No. 1 State, NE cor., Section 5-19-38, farther north. Drilling wells in the Hobbs district include: the Humble Oil & Refining Co.'s No. 1 Bowers, C NE SE, Section 30-18-38, is pulling tubing to deepen. It made 372 bbls. in four days. The Midwest Refining Co.'s No. 24 Leach, NE SE NW, Section 15-19-38, which extended the pool half a mile south of the Walker well, was deepened from 4,136 feet and completed at a total depth of 4,165 feet, averaging 850 bbls. a day in a three-days' test. The Shell Petroleum Corp.'s No. 1 Terry, SE SW NE, Section 22-19-38, is bottomed in lime at 3,284 feet and fishing for 28 joints of drill stem and bit. The Ohio Oil Co.'s No. 1 State, NE SE SW, Section 9-19-38, is standing cemented at 4,000 feet.

San Simion District

The San Simion district is running about even with the Hobbs area in the number of locations and active drilling operations. The new locations mostly are in the vicinity of Cranfill & Reynolds' No. 1-B State, NE NE NE, Section 2-21-33, a producer. Three of these were made by the Texas Production Co. as follows: No. 1-A State, SE cor. NE, Section 2-21-33, No. 2-A State, SW SE NE, Section 2-21-33, and its No. 1-B State, SW cor. NW, Section 1-21-33. Cranfill & Reynolds' No. 2-B State, NW NE NE, Section 2, one location west of its producer, commenced spudding on October 2, and their No. 3-B State, SW NE NE of the same section, is digging cellar. Snowden & McSweeny's No. 1 State, NW cor. SW, Section 1-21-33, is building rig, and the Amerada Petroleum Corp.'s No. 1 State, NW SW NE, Section 1-21-33, has rig about completed. The Continental Oil Co.'s No. 1 State, NW cor. Lot 12, Section 1-21-33, is drilling a water well which is down 485 feet. The Texas Production Co.'s No. 2 Lynch, NW cor., Section 34-20-34, three-fourths of a mile to the northwest of its No. 1 Lynch, the discovery well, is building rig, and the Empire Gas & Fuel Co.'s No. 3-B State, SW NE SE, Section 5-21-35, is drilling at 1,910 feet in salt, that formation having been topped at 1,840 feet. The elevation of the well is 3,644 feet.

The Jal district, just north of the Texas line, also had its share of new locations, one by the Empire Gas & Fuel Co. in its No. 1 Lindley, C NE SE, Section 14-25-36, and another in the Humble Oil & Refining Co.'s No. 2-A Lindley, C SW SW, Section 13-25-36. Cranfill & Reynolds' No. 1 Cushman, SW SE NW, Section 23-24-36, is bottomed at 754 feet in the red beds and running the 12½-inch, and the Magnolia Petroleum Co.'s No. 1 Lindley, SE cor. NE, Section 26-25-36, is still fishing for parted joints of the 10-inch at a total depth of 2,961 feet. The Continental Oil Co.'s No. 1 McCallister, SW cor. SE, Section 24-26-36, is standing cemented at 3,255 feet.

Eunice District

In the Eunice district in Lea County, the Penn Oil Co.'s No. 1 State, NE, Section 21-19-36, is drilling in salt at 2,180 feet. The top of the salt was at 2,165 feet. The Gypsy Oil Co.'s No. 1 Mattern SW cor. SE, Section 24-21-36, is drilling at 4,015 feet in lime with a hole full of water at 3,937 feet, followed by an increase at 3,966 feet. The Empire Gas & Fuel Co.'s No. 1 Closson, NW SE, Section 6-22-36, the largest gas well in the state, is shut in and shut down at 3,570 feet after gauging 110,000,000 feet. The Continental Oil Co.'s No. 1 A. E. Meyers, SW SW, Section 17-21-36, is rigging up rotary to kill gas and drill deeper. Total depth is 3,278 feet and the gas amounts to 31,000,000 feet a day. The same company's No. 1 William Meyers, SW cor. NW, Section 28-22-36, is bottomed at 3,257 feet and making 35,000,000 feet of gas. It is preparing to drill deeper. Other Lea County operations include the following: The Maljamar Oil & Gas Co.'s No. 2 Baish, NE cor. SW, Section 21-17-32, Caprock district, is drilling at 3,775 feet in lime and had 3,000,000 feet of gas at 3,741-45 feet. Texas Pacific Coal & Oil Co.'s No. 2 State, NW cor. SW, Section 21-23-36, Ochoa district, is bottomed in lime at 3,682 feet with the 6⅝-inch cemented at 3,636 feet. The gas is estimated at 25,000,000 feet. The Barnsdall Oil Corp.'s

TWO OF TURNER VALLEY'S LARGEST PRODUCERS TEMPORARILY FROZEN

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Oct. 12.—Owing to the temporary freezing off of two of its largest producers, the Turner Valley Field for September showed a decline from the record August production. While August deliveries amounted to 97,053 bbls., those for September dropped to 89,020 bbls. Deliveries of crude naphtha to Imperial Oil, Ltd., totaled 62,057 bbls., and deliveries of crude oil reached 17,831 bbls. Total deliveries to Regal Refineries, Ltd., amounted to 9,132 bbls. This represents a net decrease of 8,013 bbls. from August.

The decline was due entirely to freezing of Royalite Oil Co.'s No. 4, whose yield, normally around 500 bbls. a day, dropped to 1,089 bbls. for the month; and of Home Oil Co.'s No. 1, ordinarily the largest producer in the field, normally averaging around 750 bbls. a day but in September delivering a total of only 3,819 bbls. The behavior of these two big producers in September gave considerable concern to Turner Valley operators. Since then Home's No. 1 has come back into full production, and it appears that the cessation at Royalite's No. 4 was merely a case of freezing.

The outstanding new producer in the field, North West Associated's No. 1, contributed 1,412 bbls. to the September total. This gives no indication of the well's potential output, as up to October 1 only one separator was in use and no back pressure had been applied. The big feature of the month was Home Oil Co.'s No. 3, with a total of 23,504 bbls., or an average of 783 bbls. a day. Among the smaller producing units, McLeod Oil Co.'s wells showed a decided gain, increasing from 2,748 to 4,199 bbls., and averaging 140 bbls. a day. This was due to the placing in steady production of McLeod's No. 4, the first commercial producer from the lower horizon in the lime.

In the Turner Valley Field, eight wells are unfinished in the deep lime. The list includes five in the central section, Calmont's No. 1, Royaltie's Nos. 19, 21 and 23, and McLeod's No. 1, the latter deepening from the first lime horizon; and three in the south end of the field, Mayland's No. 1, East Crest's No. 1, and Foothills' South West Petroleum No. 1.

Big Producer

In the south end of the field, Mayland Oil Co.'s No. 1, LSD 10, Section 17-19-2w5, blew into what looked like big production at around 5,550 feet, or approximately 110 feet in the lime. A gas flow, estimated as high as 30,000,000 feet a day, was claimed, and it was thought the well would prove the biggest producer in the valley. Then the production pinched out completely. Drilling was continued, with some recurrences of gas, and at last reports the test was making new hole at 5,674 feet after drilling through 80 feet of hard mud to the old bottom. It is reported that the pitch of the lime in this part of the field makes drilling difficult, and that between 500 and 600 feet of hole may be required to actually reach the big producing horizon which in the Home wells was reached at 172 feet in the lime. Mayland's No. 1 is the first test so far south in the field to reach this depth in the lime, and it indicates that new conditions may be encountered in the extreme south end of the Turner Valley. The test is being drilled by Imperial Oil, Ltd., Royalite Oil Co. holding a controlling interest in the Mayland company.

On the Blood Reserve near Lethbridge,

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No. 1 Bronson, SE cor., Section 28-16-38, Lovington district, is rigging up.

Eddy County

There were no new locations or completed wells reported in Eddy County for the week. R. D. Compton's No. 1 Stuart, NE cor. NW, Section 28-20-27, in the Twin Hills district, is shut down at 625 feet in lime, and the Mesa Oil Co.'s No. 1 Seale, SW cor., Section 12-20-27, is shut down at 687 feet for rig repairs. The Lockhart Oil Co.'s No. 1 McAllister, C NW, Section 23-26-30, topped the salt at 1,320 feet, and is drilling at 1,365 feet. Leonard & Levers' No. 1 Levers, NW cor. SE, Section 21-17-29, West Maljamar, is shut down at 445 feet, and R. D. Compton's No. 1 Vandergriff, NW cor. NE, Section 33-19-30, is shut down at 340 feet. Lockhart and others' No, 1 Parke, SE cor. Section 10-17-30, bottomed the salt at 1,160 feet and is drilling in anhydrite at 1,700 feet, and the Grayburg Oil Co.'s No. 2 Keely, C SE NE, Section 24-17-29, is drilling at 2,355 feet in white lime. Naylor and others' No. 2 Danciger, NW cor. SW, Section 18-17-31, is drilling at 535 feet in anhydrite, and Etz Brothers' No. 1 Etz, C SE SE, Section 13-16-30, is drilling at 2,350 feet in shale and anhydrite.

In Chaves County, the Cactus Petroleum Co.'s No. 1 State, SE cor. Section 14-10s-26, is drilling at 1,053 feet in the red beds, and the Starr Oil Co.'s No. 3 Adams, NE cor., Section 25-17-17, is drilling at 2,781 feet in lime.

In De Baca County, the Transcontinental Oil Co.'s No. 1 McWhorter, SW NW, Section 6-3s-22, is drilling at 4,605 feet in sandy lime, and the Matador Oil Co.'s No. 1 Wood, SW SW, Section 6-4n-20, is shut down at 2,683 feet.

In San Miguel County, the Pioneer Oil & Gas Co.'s No. 1 Montezuma, SE cor. NW, Section 14-15-16, is shut down in lime at 2,145 feet and had oil and gas shows at 2,120-25 feet. The Cibola Petroleum Co.'s No. 1, SE NE SW, Section 19-13n-14e, Ribera structure, is spudding at 45 feet in a 22-inch hole. It starts in the red beds.

In Otero County, Samuel Butler and others' No. 1 Wingo, NE SW, Section 17-26-11, is shut down at 455 feet, and may be taken over by the California Oil Co.

UTAH

Drilling operations in Utah are at a very low ebb and there are less than a dozen active wells in the state. The Continental Oil Co.'s No. 1 Boundary Butte, Section 22-43-22, San Juan County, is drilling ahead slowly after recovering the bit and at last reports was down 5,570 feet, only 3 feet deeper than in the preceding week. The hole has been so reduced in size it is considered inadvisable to try to run a smaller string to shut off the gas and that makes it difficult to keep the tools on bottom. The Utah Southern Oil Co.'s No. 1 King, Section 13-23-20, Salt Valley Dome, Grand County, is bottomed at 3,829 feet and sidetracking casing at 2,000 feet. It probably will be another month before any new hole is made. The Cisco Springs Syndicate's No. 1, Section 9-20-23, Grand County, is delayed at 1,965 feet by a fishing job. The Diamond Oil Co.'s No. 4, Section 16-8s-5e, Utah County, is drilling at 1,100 feet with about 300 feet to go to reach the first objective. A small show of oil at 950 feet was reported. The Maud Ellen Oil Co.'s No. 1, Section 28-3s-21, Neal Dome, Uinta County, is reported to have recovered tools and preparing to resume drilling at a depth of 1,595 feet. The Western Venture Corp.'s No. 1 Spahr, Section 8-5s-21, Uinta County, is shut down at 1,418 feet.

COLORADO

Reports of deep tests to be drilled in eastern Colorado come to the surface every few weeks only to be denied when traced down to official sources. These frequently arise out of the fact that several of the major companies have been engaged in making geological and geophysical surveys of the region at intervals for the past year and have taken commercial leases in the more promising area. The latest of these reports was that the Midwest Refining Co. was preparing to drill a deep test in southeastern Cheyenne County near the Kansas line. The company has placed on record a number of leases, but it is stated there are no plans for immediate drilling. The Indian Territory Illuminating Co., the Continental (Marland) Oil Co., the Gypsy Oil Co., Phillips Petroleum Co., and the Humble Oil & Refining Co. have all been mentioned in these connections, but the most reliable information is that leases are being taken only as a protective measure in the event there should be a change in existing conditions.

There are three wells drilling in the eastern Colorado area, all of which are in widely separated districts. The Phillips Petroleum Co.'s No. 1 Andrews, NW NW, Section 3-2s-42, Rosenkrantz structure, Yuma County, 2 miles west of the Kansas line, is reported drilling at 4,155 feet in the upper Pennsylvanian with considerable water in the hole from a higher horizon. Information from the well is rather meager, but it is generally believed it is nearing a critical stage. The 6⅝-inch casing is on the lease and will be run to make a water shutoff as soon as a solid foundation is encountered. Another test in that general area, approximately 150 miles south of the Phillips well, is the Continental Oil Co.'s No. 1, NE cor. SE, Section 27-27-49, on the Pipe Springs structure in Bent County, which is shut down at 5,067 feet waiting for a string of 5-inch casing to make a water shutoff before drilling deeper. The third test is some distance west and about midway between these two operations and is being put down by M. T. Smith & Sons for C. D. Cunningham, and associates, in their No. 1 Middlemist, SW SE, Section 14-4s-56, on the Middlemist structure in Washington County. This is to be a 4,500-foot test to the Dakota and is getting away to a good start at 600 feet. The Indian Territory Illuminating Co. was reported the past week to have acquired a block on the structure.

Wellington Dome

The Continental Oil Co.'s No. 1 Fleming, NW SE NW, Section 6-9n-68, on the Wellington Dome in Larimer County, which topped the Muddy sand at 4,225 feet last July, is listed as a completion at a total depth of 4,231 feet. It gauged 5 bbls. of oil and 1,693,000 feet of gas the first 24 hours. The quarter upon which this well is located was not drilled for a long time after the pool was discovered due to pending litigation. This was cleared up last winter and a test started. When the hole reached the top of the Muddy it gave evidence of proving up some new territory, but water developed and it failed to come up to expectations.

A test in northern Colorado which has been under way since 1926 and which is reaching an interesting stage is the Platte Valley Petroleum Co.'s No. 1 Patterson, SW SW, Section 24-6n-61, on the Greasewood Dome in Weld County. It is reported drilling at around 4,550 feet and showing a little oil. It is carrying the 4¾-inch casing and probably has several hundred feet to go before reaching the objective Muddy sand. The well has had several good shows of oil and gas and one of these, it is believed, might make a commercial well if nothing is found in the lower horizons.

In Routt County, the Hynds Oil Co.'s No. 1 State, NW SE NW, Section 17-6n-86, on the Tow Creek Dome, is reported abandoned at 3,385 feet and rig moved away. It was idle for about a year awaiting the outcome in a second well drilled on the lease. The No. 2 State was a small producer at first and soon dropped off. It, likewise, has been abandoned. Routt County had a disappointment when the Midwest Refining Co.'s No. 10 Barmettlor & Clayton, NW NE NW, Section 4-7n-86, on the Chimney Creek Dome, north of Tow Creek, encountered water in a sand and was shut down at 1,717 feet for orders. The sand, which is presumed to be the Sundance, was topped at 1,640 feet and the bit was some distance in when the water made its appearance. This structure was drilled several years ago and showed considerable gas in the Frontier and water in the Dakota. The underlying Morrison and Sundance subsequently were proven productive on two structures in Moffat County and the Midwest went in to take a shot at the Sundance. The structure had been passed upon favorably by several geologists and the closure had been proven, but the presence of igneous rock nearby was a disturbing factor.

Jackson County

In Jackson County, the Midwest Refining Co.'s No. 21-X Rich, SW NW, Section 9-6n-80, Buffalo Creek, is drilling at 2,945 feet in a greenish sand which is showing a little water, and the Producers & Refiners Corp.'s No. 1 Hendershot, SE NE, Section 2-6n-81 Pole Mountain, is drilling out cement after setting the 10-inch at 2,729 feet.

In Moffat County, Thomas McLaughlin and others' No. 1 Williams, NW SW, Section 2-3n-92, Iles Dome, is fishing for tools at a total depth of 4,232 feet and has not made any new hole the past week. It is bottomed in the lower Morrison. The McCormick Oil Co.'s No. 1-A Sales, SE SE, Section 28-4n-92, is bottomed at 3,200 feet and having trouble with a crooked hole. The Texas Production Co.'s No. 1 Berlin, SW NE, Section 19-12n-100, Bartram Dome, Hiawatha district, is waiting for the cement to harden after setting the 10-inch at 1,630 feet, which is also the total depth. The hole made 50,000,000 feet of gas just above this depth.

In Rio Blanco County, the White Eagle Oil & Refining Co.'s No. 1-A Fordham, NW SW, Section 9-2s-96, Piceance Creek structure, is still bottomed at 2,815 feet at which depth it topped a sand making about 6,000,000 feet of gas. The gas caught fire and burned the rig, injuring three persons. Operations are at a standstill pending an adjustment of the losses covered by insurance. While nothing has been given out as to the quality of the gas, the heavy clouds of black smoke it made while burning indicated it had a petroleum origin. The Texas Production Co.'s No. 1 Potter, C NE SW, Section 30-2n-96, White River structure, is coring at 4,600 feet.

WYOMING

The Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW, Section 22-3n-1w, on the Pilot Butte Dome, in Fremont County, Wyoming, drilled itself in as a big gasser on the afternoon of October 7, wrecked the derrick and killed H. O. McGowan, one of the crew. This was the third serious oil well disaster in the Rocky Mountain area in as many weeks. Aside from the fatality resulting from the blowout, the development points to an important discovery and the belief it will lead to the opening of a new light oil pool. The Pilot Butte Field has been producing light oil from the Shannon sand at 600 to 900 feet in small quantities for a number of years and the Illinois Pipe Line Co. has a line from the field to Riverton. In 1925, the Argo

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WILDCAT TESTS INTEREST MICHIGAN; MT. PLEASANT AREA IS MOST ACTIVE

By Special Correspondent

MUSKEGON, Mich., Oct. 12.—Wildcat areas near the proven Muskegon and Mount Pleasant oil fields held the interest of Michigan operators last week. A show of oil in Ottawa County and a show of gas in Sullivan Township, Muskegon County, were interesting but commercially unimportant developments in western Michigan. Clare County and territory north of Mount Pleasant in Isabella County continued to hold the interest in central Michigan.

About 1,000 bbls. of initial production was added to the record of the Mount Pleasant Field with three new completions in the Dundee while a well about a mile ahead of present production in a northwesterly direction had a good show in the upper Traverse.

Two gas wells and four small oil producers were completed in the Muskegon Field where drilling activity is slowly declining.

The Muskegon Pipe Line Co., owned and operated by a group of Chatham, Ontario, gas men, is promoting a deep test on the George H. Shoup property in Section 8, Muskegon Township, which seems most promising for a deep test on structure.

The largest new wells were two completed by independent operating companies in the Mount Pleasant Field where the Pure Oil Co. holds a majority of the acreage and has drilled the most wells. The Leonard Oil & Gas Co.'s No. 3 McClintic, SE NE, Section 11-14-3, Chippewa Township, Isabella County, and the Chippewa Oil & Gas Co.'s No. 4 Joslin, NW SW, Section 12-14-3, also Chippewa Township, were 400-bbl. initial producers in the Dundee pay sands. The Pure Oil Co.'s No. 2 Fred Sias, SW SW, Section 8-14-2, Greendale Township, Midland County, also was drilled into the Dundee pay sands north of the discovery wells drilled by the Pure company.

The most interesting development in the Central Michigan Field was the discovery of considerable oil in the upper Traverse in the E. Brown Development Co.'s No. 1 Brown or Engelhart, NE NE, Section 3-14-3, Chippewa Township, about a mile northwest of production. Pay sands were struck at 2,915 feet and the hole filled up 1,200 feet in a short time. The well probably will be drilled to the Dundee and may be produced from both sands if successful in the lower pay.

A new wildcat location has been announced by the West Virginia Oil Producing Co. on the Roethlisberger farm in the NW NE Section 24, Lincoln Township.

B. C. Calking, of the Independent Oil Co., of Baltimore, Md., says more than $3,500,000 has been spent in development of the Mount Pleasant Field to date including $40,000 for each of 58 producing wells, $16,000 for 10 dry holes and the remainder in pipe lines, storage tanks, pumping stations and other equipment. Daily production of the field is now about 7,000 bbls. and steadily increasing.

Muskegon Field

The largest of the two gas wells completed in the Muskegon Field was the Dundee Oil & Gas Co.'s No. 1 Frank Cihak, NE NW Section 8-10-16, Muskegon Township. It was gauged at 5,000,000 feet a day at 2,041-55 feet. The other gasser was the Muskegon Oil Corp.'s No. 2 Albert Heinz, NE NE, Section 8-10-16, which made 3,102,000 feet a day in Dundee at 2,035-42 feet.

The Reed Oil Co.'s No. 1 Lester Hill, NE SE, Section 8-10-16, was cleaned out and placed on the pump as a 30-bbl. well. It is about 1,640 feet. The Reliable Oil & Gas Co.'s No. 1 Coleman-Valentine, SW NW, Section 5-10-16, is good for from 30 to 50 bbls. a day on the pump at 1,713 feet.

The United Gas & Oil Co.'s No. 2 John D. Cooper, NE SW, Section 8-10-16, on the river flats, is estimated good for 20 bbls. at 2,013-20 feet. The Grand Rapids Oil Co.'s No. 2 Henry Smeltekop, NW SW, Section 5-10-16, north of M-20, is good for from 25 to 50 bbls. on the pump in the Dundee.

Three new locations were made for Muskegon Township and rigs are being set up: Harold L. Fleeger's No. 2 Stanley Daniloff, SW SE, Section 5-10-16; V. J. Rytina, trustee's No. 1 John B. Nichols, NE NW, Section 8-10-16; and the Henley Oil Co.'s No. 4 Jacob Koning, NW SW, Section 7-10-16. There were no new completions in Laketon Township. One new location was made, John G. Turner,

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California Operators See Better Era

Injunction Proceedings Now Under Way Expected to Remove Uncertainty Concerning Validity of Gas Conservation Law

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Oct. 12.—The present week is to usher in a new era in the California petroleum industry, in the opinion of progressive operators, notwithstanding concerted attempt to void the state gas conservation law. Hearing on injunction proceedings, beginning today, is expected to continue for a week or more. Headway was made last week in ironing out objectionable features in the co-operative agreement covering distribution of natural gas. Major operators who sponsored organization of the proposed gas conservation association have agreed to give independent producers a free hand in the selection of seven additional members in order that they may be equally represented on the operating committee of 14. If this association becomes a reality it is expected greatly to facilitate enforcement of the gas conservation law and at the same time permit maximum production of crude oil.

A last-minute canvass shows no change in the opinion of operators with respect to the gas law unless it lies in a lessened antagonism toward it on the part of many independent producers. Some have come to the conclusion that conditions are not any too favorable and that a cut in crude and refined oil prices may materialize in spite of the gas law. A few confirmed optimistis look upon the gas law as a panacea for all the ills with which the industry is afflicted.

With effective enforcement, the gas law might reduce state production 200,000 bbls. per day and, while this would help conditions it would not entirely preclude operators from adding to stocks during the winter season with the normal seasonal decline in consumption. Lease requirements recently have forced several operators to resume production activities in two fields where curtailment measures have been in effect for about two years and, while approximately 20,000 bbls. per day has been opened up, no general abandonment of existing crude oil curtailment is expected. Approximately 100,000 bbls per day of light and heavy crude is still shut in, most of which will remain shut in unless the gas law should unavoidably penalize some refiner to the extent of reducing current production below refinery requirements.

No Immediate Improvement in Sight

There has not been any great fluctuation in state production during the past several months and no improvement can be expected in the immediate future except through operation of the gas conservation law, or other regulatory measures, as the normal tendency should be toward higher production during the next few months. Santa Fe Springs, which has been the dominating factor, will continue to occupy the premier position in production for several months, as there are still 234 uncompleted drilling wells and deepening projects headed down to the deep zones.

The Elwood Field of the Santa Barbara County, Midway-Sunset area of Kern County and the Potrero Field of Los Angeles Basin should register increased production in the course of the next several months under normal conditions. Mount Poso and Round Mountain will show higher production owing to progressive drilling and the opening up of wells which were shut in subsequent to completion because of the absence of pipe line facilities. The Union Oil Co. recently completed a new pipe line from Mount Poso to Kern River and another from Round Mountain terminating at the same point. These two lines, both of which are 6-inch welded jobs, will provide an outlet for present production in each area and no doubt stimulate additional development work which has been retarded for the reason already mentioned.

The Mount Poso line is in operation, handling about 10,000 bbls. daily and the first run will be made out of Round Mountain within the next 10 days. There are no flush fields in California at the present time which can be expected to register normal substantial declines in the immediate future and State production will reach a substantially higher level later this year if the gas conservation law fails of fulfillment.

Storage at Premium

The importance of this regulatory legislation is evident and well informed oil men predict a downward revision in the existing price structure if no relief is gained in the near future. Many of the major companies are operating on a day-to-day basis owing to the heavy accumulation of crude and refined oils especially during the past several months. Tankage has been at a premium and it is doubtful if even 50,000 bbls. of empty storage could be leased at the present time. Large producers and purchasers of crude oil are reluctant to construct additional tankage under present conditions owing to the uncertainty as to the validity of the gas conservation law. Empty storage at present is inadequate to hold the accumulation of crude and refined oil during the next 60 days with unregulated drilling and if the Superior Court fails to issue an injunction restraining operators from further waste of natural gas at the conclusion of the hearing pipe line companies will find it necessary to construct additional tankage.

The overproduction of crude oil and consequent substantial accumulation of crude and refined oil stocks during the past several months has not slowed up drilling operations in proven fields or affected exploration work in wildcat territory. The General Petroleum has opened up a new field at Capitan in Santa Barbara County where the discovery well is pumping 170 bbls. of 20.4 gravity oil daily from 1,368 feet and extension work has precipitated a town-lot drilling campaign in the Potrero Field of Los Angeles Basin. Tideland development in the Elwood Field of Santa Barbara County is progressing rapidly with the result that additional completions will be listed in that area in the near future. Production of the Midway-Sunset Field of Kern County is also expected to reflect development work resulting from progressive drilling out in the Maricopa flats where completions in the brown shale show initials ranging from 500 bbls. to 2,000 bbls. per well.

Deep Drilling Important Factor

Deep drilling in proven territory has been an important factor in California production. Elwood is the only field of recent origin which has developed substantial production. The dominating position occupied by Santa Fe Springs results from deeper drilling several years after the original discovery. A similar situation was responsible for the increase shown by the Long Beach Field a year or two ago and this condition will be repeated when deep zone exploitation gets under way in the Inglewood, Dominguez and Coyote fields where deeper zones are actually known to exist. Huntington Beach, Montebello and other productive areas also have deep zone possibilities. The importance of future deep zone development depends to a large extent upon the outcome of injunction proceedings instituted by the California Department of Natural Resources to facilitate enforcement of gas conservation. Intensive development will be minimized if production of crude oil is regulated by the amount of natural gas produced.

There are deep zone exploratory wells under way in proven fields at present and others will be started from time to time. In the San Joaquin Valley deep tests are being drilled in the Elk Hills, Wheeler Ridge, Midway-Sunset and Belridge oil fields and in the Buttonwillow gas field. In the Los Angeles Basin and coastal region, comprising Ventura, Santa Barbara and San Luis Obispo Counties, deep tests are being drilled in proven fields. At Long Beach the Shell's No. 11 Nesa is down 9,280 feet in search of deeper production, while The Texas Company's No. 10-A Patterson at Santa Fe Springs is down 8,535 feet in search of additional productive horrizons.

Work Halted at Huntington Beach

Deep drilling at Huntington Beach has been averted for the time being, operators interested in this area having prevailed upon those undertaking deep zone exploration to hold up work until a more opportune time. The Invader Oil Co. recently suspended drilling operations on No. 1 Mills at 5,840 feet and an effort will be made to produce from the upper

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	997,250	2,839,582
Fuel oil	.....	.....	407,225	58,175	457,175	111,621
Diesel and gas oil	248,066	35,435	73,150	10,450	1,883,113	1,543,114
Gasoline	444,594	63,513	.....	.....	16,193,724	10,794,164
Kerosene	49,750	7,107	.....	.....	49,750	.....
Naphtha Distillate	.....	.....	.....	.....	81,750	259,600
Coastwise—						
Crude oil	657,789	93,967	677,222	96,746	21,867,756	19,709,630
Fuel oil	395,242	56,463	191,653	27,379	15,178,523	12,978,865
Diesel and gas oil	34,997	5,000	.....	.....	937,578	892,108
Gasoline	301,557	43,080	231,833	33,119	8,736,360	7,190,125
Kerosene	.....	.....	404	58	69,509	64,061
Naphtha distillate	.....	.....	.....	.....	.....	171,566
Exports—						
Crude oil	106,767	15,253	160,646	22,949	4,588,338	1,717,907
Fuel oil	422,076	60,297	511,422	73,060	14,387,390	18,141,095
Diesel and gas oil	19,239	2,748	54,984	7,855	2,080,012	1,924,316
Gasoline	559,350	79,907	137,261	19,609	9,583,193	5,481,024
Kerosene	125,678	17,954	.....	.....	2,571,284	3,486,074

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	.....	342,425
Gasoline	159,102	22,729	.....	.....	1,817,947	1,672,095
Lubricants	.....	.....	.....	.....	138,706	277,151
Coastwise—						
Fuel oil	.....	.....	203,838	29,120	2,353,488	2,977,749
Diesel and gas oil	.....	.....	.....	.....	359,958	259,252
Gasoline	70,130	10,019	105,972	15,139	4,051,816	3,611,124
Kerosene	7,503	1,072	9,253	1,322	139,447	181,178
Exports—						
Crude oil	.....	.....	.....	.....	121,603	96,250
Fuel oil	65,145	9,306	.....	.....	722,826	1,989,572
Diesel and gas oil	.....	.....	.....	.....	326,657	10,400
Gasoline	15,000	2,143	33,451	4,780	4,196,576	3,667,264
Kerosene	.....	.....	.....	.....	528,060	464,080
Lubricants	.....	.....	.....	.....	25,713	33,535

MANY COMPLETIONS IN THE EAST BUT NONE AS GOOD AS 50 BBLS.

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Oct. 14.—The eastern fields failed to complete any large producers during the week and there was quite a long list. It is not often that one or the other does not complete as good as a 50-bbl. well. That is just what happened. Producers are putting their old wells in condition to meet the winter months. Shooting and cleaning out is noticeable in all sections. Neither West Virginia nor Southeast Ohio has had a new pool for more than two years. A good well now and again in some section promised a new pool but when an effort was made to find an extension it failed to materialize.

SOUTHEAST OHIO

One mile south of Chesterhill, Section 7, Marion Township, Morgan County, the Skipton Farm Oil Co. completed a duster on the B. and Linda Schofield farm, no sand having been encountered. In Section 33, same township, Charles Woodyard completed in the first Cow Run sand a second test on the Harry Hallowell farm. It is a duster. In fractional Section 33, same township, Charles Woodyard & Co.'s test on the Harvey Hallowell farm has a very light show of oil in the first Cow Run sand.

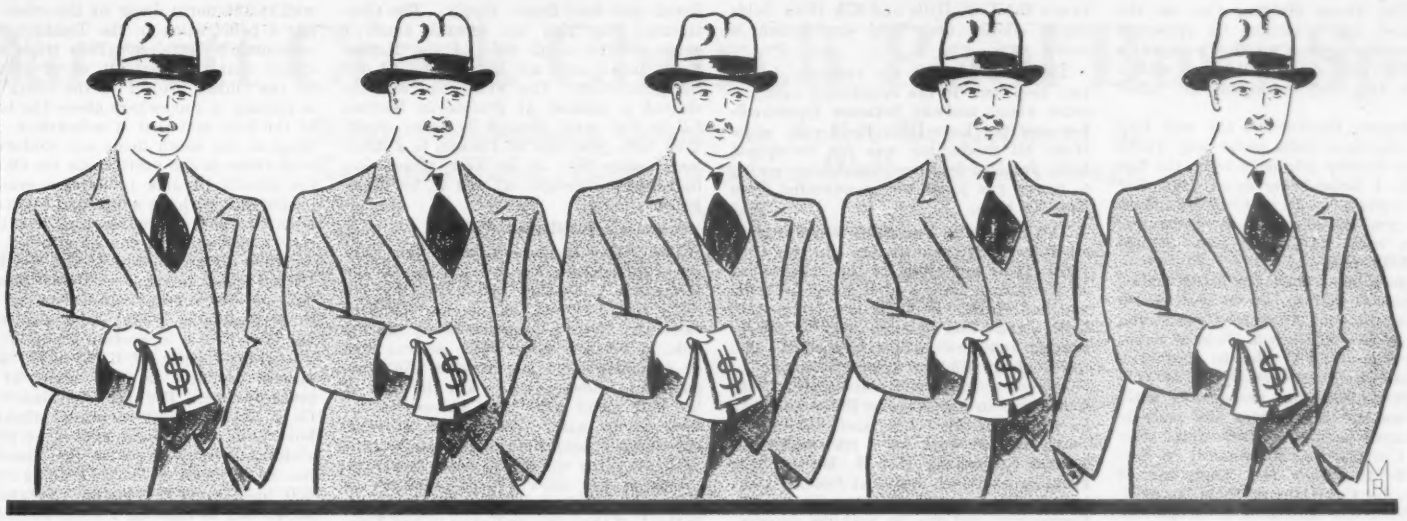
In Lot 5, Chatham Township, Medina County, the East Ohio Producing & Refining Co. has a duster in the Berea grit at No. 7 on the Steve and A. Jelencsiscs farm. In the NE of Section 12, Noble Township, Noble County, McKee Brothers completed a second test on the McKee Brothers' farm, a very light pumper in the Berea grit.

In the NW of Section 9, Harrison Township, Perry County, Bell, Scholl & Co. completed a test on the Harry Comba farm. It is a gasser in the Clinton sand good for 1,000,000 feet. In the SW of Section 17, Harrison Township, the Bloomingville Oil Co. and others have a gasser in the same formation on the James May farm good for 400,000 feet. In the SW of Section 34, Coal Township, the Preston Oil Co. completed in the same formation No. 1,356 on the Sunday Creek Coal Co.'s property, a gasser good for 900,000 feet.

Monroe and Meigs Counties

In Section 25, Bethel Township, Monroe County, Henry L. Timbling and others have a duster in the Squaw sand at No. 17 on C. J. Bode farm. In Section

(Continued on Page 100)



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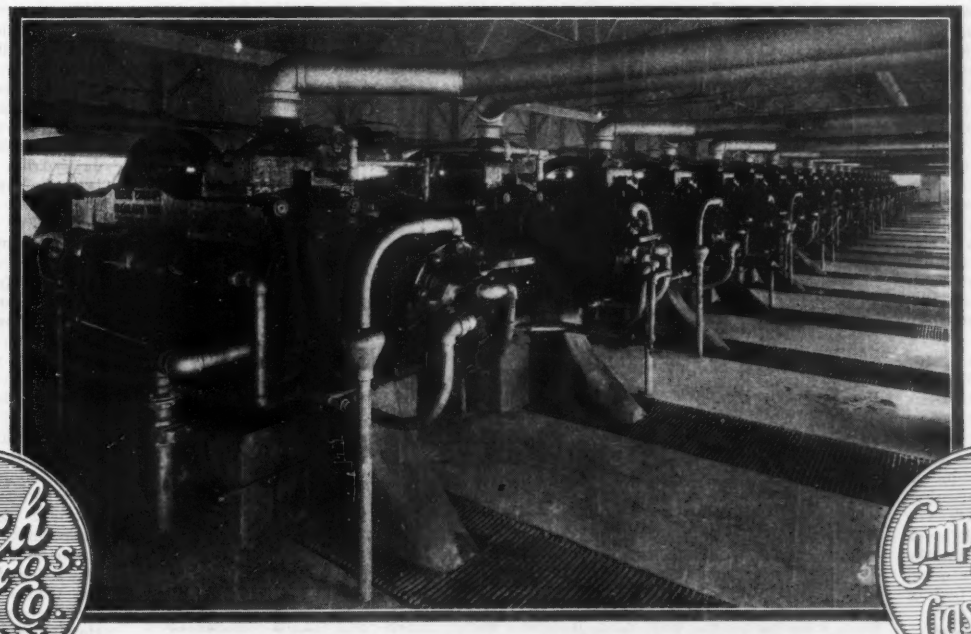

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sand. The Texas Holding Co., on the other hand, may continue its projected deep zone exploration as this company's No. 5 is already down 5,010 feet with a string of 11¾-inch cemented at 3,960 feet.

The Sunset Pacific Oil Co. and Rex Oil Co. also have wells under way which may later develop into deep tests, the former's No. 4 Bolsa being down 4,000 feet and the latter's No. 14 at 4,910 feet. Both of these projects are in good mechanical condition with 11¾-inch pipe landed around 3,800 feet.

Two deep zone tests are being drilled in the coastal region, one in the South Mountain Field of Ventura County and another in the Cat Canyon Field of Santa Barbara County. At South Mountain, The Texas Company carried No. 24 Willard down to 5,922 feet presumably without success as this project has recently been plugged back to 4,000 feet. The Palmer Union's No. 20 Stendill in Section 30-9-32, a deep test being carried down in the Cat Canyon Field, is drilling ahead in the Monterey at 6,725 feet and it is the general opinion that this project stands an excellent chance of developing deep production.

The Standard Oil Co. has three deep exploratory wells under way in the San Joaquin Basin. One is No. 27 on the Kern County Land Co. lease at Elk Hills in Section 31-30-35. This project, which was rotating ahead a few days ago at 7,355 feet, should prove a rather satisfactory test although it will not preclude similar work at other points on the structure even if successful.

Follows Study of Years

The Standard's present deep zone exploration work at Elk Hills culminates a study of several years. The Standard is also making a determined attempt to pick up a deep horizon in the Wheeler Ridge Field, which district has proven somewhat of a flivver from a production standpoint, the total output to date only approximating 2,062,323 bbls. At Wheeler Ridge, which is located in the extreme southern part of the San Joaquin Basin, the Standard has reached a depth of 6,240 feet in the company's No. 26, located in Section 27-11-30.

Deep zone exploration is being prosecuted in the Midway-Sunset Field of Kern County by several companies. The deepest of these is the Shell's No. 1 Perris in Section 15-32-23, although the Standard's No. 1 Mascot in Section 26-32-23 is not far behind. The former project was rotating ahead a few days ago at 6,850 feet while the latter was making hole at 6,760 feet. In the Buena Vista Hills section of the Midway-Sunset Field the Ohio Oil Co. has reached a depth of 5,945 feet in No. 1 Pyramid, located in Section 20-32-25. There are two deep tests under way in the Belridge Field of Kern County the Ohio Oil Co.'s No. 23 in Section 30-28-21 being down 5,008 feet and the Belridge Oil Co.'s No. 15 in Section 26-27-20 at 5,048 feet.

The Milham Exploration Co., discoverer of the Kettleman Hills Field of Kings County and the Buttonwillow gas field of Kern County, is working on an interesting project in the latter area. Buttonwillow is the only field in California potentially capable of producing natural gas exclusively. The Milham has definitely proved up two separate gas zones at Buttonwillow and, while none of the eight wells finished up to the present time is on production, they could be producing at least 50,000,000 feet of natural gas within 24 hours.

Possibilities of Buttonwillow Field

Geological research has indicated the possibility of developing commercial crude oil production in the Buttonwillow Field and, the exact situation should be determined in the next six months as the Milham's test in Section 8-28-23 has reached a depth of 4,580 feet. The Milham started this well on the supposition that the gas producing horizons at Buttonwillow are in the San Joaquin Valley fill overlying a zone comparable with the productive horizon in the Elk Hills Field. The relative geographic location of these areas is especially interesting in connection with deep zone exploration inasmuch as Buttonwillow is in a direct line between the Lost Hills and Elk Hills fields where similar deep zone exploration is under way.

The Richfield Oil Co. recently drilled two deep tests in the Semitropic area, located about midway between Buttonwillow and the Lost Hills Field and, while crude oil production was not developed, both projects lent encouragement owing to heavy gas pressures encountered from time to time.

The Petroleum Securities is working on an interesting wildcat out in the Guijarral Hills northwest of the north dome at Kettleman Hills and this test is being watched closely as some are inclined to believe that this location may be a connecting link between Kettleman Hills and the Coalinga Field of Fresno County.

Two new important wildcats are also under way in Los Angeles Basin and both have possibilities. The Shell Oil Co. recently started work for a test well to be located in Section 18-5-11, between the Huntington Beach and Seal Beach Fields. and an early spud will be made. The Continental Oil Co. is making preparations to drill a wildcat in Section 34-4-12, about midway between the Long Beach and Seal Beach Fields. The Continental has tied up several hundred acres on the north side of the Naples Fault in an area not hitherto tested out for production. The State Co. recently started a wildcat at Puente in Section 5-2-10 and good footage is being made. This well, just east of Puente, is a Monterey shale test in an area which has been in the limelight off and on for many years.

Kettleman Hills

The crepe hangers became busy last week condemning the south dome of the Kettleman Hills Field when the Ohio Oil Co.'s No. 1 Smith in Section 35-24-19 came in flowing approximately 20,000 bbls. of hot salt water after several days of swabbing. At last reports the company was endeavoring to kill the flow of hot salt water with little success as the mud pumps with 1,700 pounds of pressure behind them were inadequate to cope with the large volume of water produced.

One of the most unusual features in connection with the Ohio's No. 1 Smith is the fact that this well was in the Temblor for a depth of about 150 feet only. The Milham Exploration Co.'s discovery well in the north dome, on the other hand has a penetration in the Temblor of approximately 700 feet. This tends to indicate that the hot salt water produced by the Ohio's project in the south dome is coming in somewhere above the bottom of the hole and that if subsurface conditions in the south dome are conformable with those in the north dome the Ohio Oil Co. should be able to develop crude oil production with an additional 500 feet of hole, provided of course that a satisfactory water shut off can be effected.

Crude oil production of the Kettleman Hills Field approximates 10,000 bbls. per day at the present time, coming from three producing wells. The Continental Oil Co.'s No. 8 in Section 12-22-17, with a current output of 6,750 bbls., is the largest producer in this area at the present time. The Milham Exploration Co.'s No. 1 Elliott increased about 200 bbls. a day this week and is at present yielding 2,400 bbls., with the Standard's No. 81 in Section 11-22-17 doing around 650 bbls. every 24 hours. Natural gas production is running around 200,000,000 feet daily from the three wells on production.

The Continental Oil Co.'s initial completion in the north dome is yielding approximately 150,000,000 feet of natural gas daily and requires 18 gas traps to handle the large volume produced. The Pacific Gas & Electric Co. is expected to start construction work on a second major natural gas line out of the Kettleman Hills Field within the next 30 days. This new line will extend up through the San Joaquin Valley and terminate at Richmond on San Francisco Bay, passing enroute through Sacramento, Stockton and a number of other communities where several large industrial concerns will utilize natural gas for fuel.

Santa Fe Springs

Daily production at Santa Fe Springs failed to maintain its level during the last week owing to a relatively small list of completions and the cessation of flow in several good wells. The Sunset Pacific Oil Co.'s No. 2 Santa Fe, a recent completion doing 7,925 bbls. daily from 8,053 feet, recently sanded up and the hole is being cleaned out. During the 24-hour period preceding the cessation of flow this well tanked 4,550 bbls. of clean pipe line oil. There were no really large wells finished at Santa Fe Springs this last week, the best producer being No. 2 Lamb of the Third Twin Bell Syndicate, which came in flowing 4,250 bbls. of unusually clean 34.1 gravity oil daily from 7,983 feet, the hole having been finished with a 6⅝-inch landed at 7,686 feet. George W. Ring's No. 1 Santa Fe, which was returned to production flowing 2,835 bbls. of clean 34.1 gravity oil and 2,600,000 feet of natural gas daily from the Clarke zone at 7,930 feet, was originally completed last December flowing 2,950 bbls. daily from 5,690 feet. This project blew in while a water test was being made and, while it is barefoot, it will be allowed to remain on production as long as the output holds up.

George F. Getty chalked up two completions this week, one of which, however, will probably be killed and a little more hole added in order to stimulate production. This is No. 37 Hill, which blew in prematurely in a water test, doing 1,960 bbls. of clean 36.1 gravity oil and 10,000,000 feet of natural gas daily from the Clarke zone at 7,753 feet. Getty's second completion was No. 39, which is flowing 900 bbls. daily from the Nordstrum zone at 6,272 feet. This new well has a penetration of only 12 feet in the oil sand and will probably be killed at an early date and some hole added.

Twenty Strings at Work

The Union Oil Co., with 20 strings of tools to its credit in this field, successfully finished up No. 36 Bell, a new well flowing 1,580 bbls. daily from the O'Connell zone at 6,850 feet. The Wilshire Oil Co. also increased its list of producers this week by recompleting No. 5 Baker flowing 2,740 bbls. of clean 33.6 gravity oil daily from the Clarke zone at 7,985 feet. This well was originally

(Continued on Page 121)

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well, location—	S-T-R	Depth	Status
Union, No. 1 Buel Canyon, Santa Barbara Co.	X- 7-31	1,806	redrilling
Western Gulf, No. 2 Gaviota, Santa Barbara Co.	X- 5-33	2,830	sd. sh. drilling
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	2,428	cleaning out
Standard, No. 1 Point Arguello, Santa Barbara Co.	35- 6-36	2,040	sd. sh. drilling
Gaviota Oil Co., No. 1 Lompoc, Santa Barbara Co.	9- 7-35	1,830	hd. sd. drilling
Calif. Oil Prod. No. 1 San Marcos, Santa Barbara Co.	3- 4-28	1,030	fishing
Carey, A., No. 1 Goleta, Santa Barbara Co.	1- 4-28	280	sd. drilling
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	gas well—idle
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	122	sd. drilling
Petroleum Securities, No. 1 Goleta, Santa Barbara Co.		5,191	br. sd. drilling
Tannehill, L. B., No. 1 Elwood, Santa Barbara Co.	24- 4-29	611	sd. sh. drilling
General Pet., No. 1 Capitan, Santa Barbara Co.	5- 4-30	1,368	170 bbls.
Standard, No. 1 County Farm, Santa Barbara Co.		mtl.	building rig
System Oil Co., No. 1 Orcutt, Santa Barbara Co.	36-10-34	4,297	testing
Keystone Oil Co., No. 1 Santa Maria, Santa Barbara Co.	33-10-34	4,100	br. sh. drilling
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	20-10-35	2,914	br. sh. drilling
Keystone Oil Co., No. 1 Surf, Santa Barbara Co.	18- 7-35	2,948	sd. sh. drilling
Channel Oil Co., Well No. 1, Santa Barbara Co.	29- 4-27	6,304	suspended
Channel Oil Co., No. 1 Fellowship, Santa Barbara Co.	29- 4-27	2,140	suspended
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	1,011	sd. sh. drilling
Gilmore Oil Co., No. 1 Gilbraltar, Santa Barbara Co.	1- 5-28	mtl.	building rig
Shell, No. 1 Summerland, Santa Barbara Co.	18- 4-25	mtl.	building rig
Continental, No. 1 Carpenteria, Santa Barbara Co.	33- 4-25	4,130	gas well—idle
Continental, No. 2 Carpenteria, Santa Barbara Co.	33- 4-25	4,460	redrilling
Standard, No. 5-9 Saticoy, Ventura Co.	10- 2-22	8,154	fishing
American Oil Co., No. 1 Camarillo, Ventura Co.	33- 2-20	1,210	suspended
Smith & Finch, No. 1 Camarillo, Ventura Co.	5- 1-20	1,135	hd. sd. drilling
Bolsa Chica, No. 1-A Temescal, Ventura Co.	4- 4-18	1,001	hd. sd. drilling
Associated, No. 1 Rincon, Ventura Co.	19- 4-24	mtl.	building rig
Miley, E. J., No. 3 Red Mountain, Ventura Co.	7- 3-23	1,861	hd. sd. drilling
Frank Oil Co., No. 1 Fillmore, Ventura Co.	35- 4-20	2,045	hd. sd. drilling
Continental, No. 1 Sulphur Mountain, Ventura Co.	21- 4-22	3,765	suspended
Continental, No. 2 Sulphur Mountain, Ventura Co.	22- 4-22	6,740	suspended
Continental, No. 3 Sulphur Mountain, Ventura Co.	21- 4-22	4,003	hd. sd. drilling
Lockwood Oil Co., Well No. 1, Ventura Co.	28- 8-21	516	hd. sd. drilling
Milham Explth., No. 1-A Buttonwillow, Kern Co.	8-28-23	4,662	gas well—idle
Milham Explth., No. 2 Buttonwillow, Kern Co.	8-28-23	2,730	gas well—idle
Milham Explth., No. 3 Buttonwillow, Kern Co.	8-28-23	2,694	gas well—idle
Milham Explth., No. 4 Buttonwillow, Kern Co.	6-28-23	2,670	gas well—idle
Milham Explth., No. 5 Buttonwillow, Kern Co.	5-28-23	2,500	gas well—idle
Milham Explth., No. 6 Buttonwillow, Kern Co.	8-28-23	2,676	gas well—idle
Milham Explth., No. 7 Buttonwillow, Kern Co.	6-28-23	2,720	suspended
Milham Explth., No. 8-A Buttonwillow, Kern Co.	8-28-23	2,673	gas well—idle
Milham Explth., No. 9 Buttonwillow, Kern Co.	8-28-23	4,580	hd. sd. drilling
Milham Explth., No. 10 Buttonwillow, Kern Co.	8-28-23	2,672	suspended
Elmer Oil Co., No. 1 Shafter, Kern Co.	8-28-25	6,067	suspended
Elmer Oil Co., No. 1 Bena, Kern Co.	15-30-30	3,418	hd. sd. drilling
Elmer Oil Co., No. 1-A Rosedale, Kern Co.	33-29-26	5,011	sd. sh. drilling
General Pet., No. 1 Rosedale, Kern Co.	13-29-26	2,088	gr. sd. drilling
The Texas Co., No. 1 Edison, Kern Co.	23-29-29	1,974	hd. sd. drilling
Symark Oil Co., No. 1 Edison, Kern Co.	24-29-29	2,104	br. sh. drilling
Heyd, Frank, No. 1 Edison, Kern Co.	26-29-28	...	material
Shell Oil Co., No. 1 Lerdo, Kern Co.	5-29-27	4,875	hd. sd. drilling
Union, No. 2 San Emidio, Kern Co.	5-10-21	3,666	cleaning out
Currency Pet. Co., No. 1 Jacalitos, Fresno Co.	28-21-14	2,371	sd. sh. drilling
Currency Pet. Co., No. 2 Jacalitos, Fresno Co.	14-21-14	354	sd. sh. drilling
Hornaday & Huggins, No. 1 Kerman, Fresno Co.	32-14-18	4,916	fishing
Rio Grande Oil Co., No. 1 Kerman, Fresno Co.	14-13-17	116	sd. drilling
Shell Oil Co., No. 3 Westhaven, Fresno Co.	26-19-18	3,070	cemented
Shell Oil Co., No. 4 Westhaven, Fresno Co.	17-19-19	3,612	sd. sh. drilling
Cates Oil Co., No. 1 Joaquin Ridge, Fresno Co.	7-19-15	114	suspended
Oceanside Oil Co., No. 1 Krayenhagen, Fresno Co.	33-22-17	138	suspended
Petroleum Securities, No. 1 Huron, Fresno Co.	20-20-16	695	suspended
Petroleum Securities, No. 2 Huron, Fresno Co.	28-20-16	6,454	hd. sd. drilling
Pismo Dome Oil Co., No. 2 Pismo, San Luis Obispo Co.	5-32-13	729	sd. sh. drilling
Union, No. 1 Huasna, San Luis Obispo Co.	34-32-15	3,940	redrilling
Union, No. 1 North Huasna, San Luis Obispo Co.	12-32-14	4,430	br. sh. drilling
Midwest Refining Co., No. 1 Huasna, San Luis Obispo Co.	34-31-15	2,212	pipe froze
Panorama Oil Co., Well No. 1, San Luis Obispo Co.	7-31-21	4,019	cleaning out
Paso Robles Synd., No. 1 Creston, San Luis Obispo Co.	27-27-11	3,377	br. sh. drilling
Latin American O. Co., No. 1 Shandon, San Luis Obispo Co.	31-27-15	3,370	sd. sh. drilling
Colusa Oil Co., Well No. 1, Colusa Co.	31-15-14	640	hd. sd. drilling
North Counties Oil Co., Well No. 2, Humboldt Co.	36- 2- 1	2,205	suspended
Humboldt Oil Co., Well No. 1, Humboldt Co.	6- 2- 1	3,041	suspended
Applegate & Renshaw, Well No. 1, Merced Co.	24- 6-10	3,750	suspended
Kuhns, H. L., Well No. 1, Merced Co.	8-12-19	660	suspended
Foster & Hammil, Well No. 1, Alameda Co.	21- 3- 3	1,158	hd. sd. drilling
Producers Oil Co., No. 1 San Lucas, Monterey Co.	30-21- 9	...	material
Shell, No. 1 Dudley, Monterey Co.	15-22- 9	4,120	sd. sh. drilling
Chessher, H. B., No. 1 Dudley, Monterey Co.	8-22- 9	245	sd. drilling
Union, No. 1 King City, Monterey Co.	8-22- 8	2,079	hd. sd. drilling
Standard, No. 1 King City, Monterey Co.	23-22- 7	1,636	br. sh. drilling
Continental, No. 1 Bradley, Monterey Co.	32-24-11	5,955	suspended
Brown, W., No. 1 Parkfield, Monterey Co.	15-23-14	500	suspended
Tuck Oil Co., No. 1 Los Gatos, Santa Clara Co.	15- 8- 1	852	suspended
Penn Western, No. 1 Tulare Lake, Kings Co.	24-21-18	1,194	sd. sh. drilling
Dudley Ridge Synd., No. 1 Tulare, Kings Co.	12-23-19	1,305	gas well-sh. in
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	150	sd. drilling
Porter, H. B., No. 1 Devils Den, Kings Co.	9-24-17	1,920	hd. sd. drilling
Getty, George F., No. 1 Button, Madera Co.	18-13-16	mtl.	building rig
Twin State Oil Co., No. 1 Soldani, Mendocino Co.	14-12- 7	848	hd. sd. drilling
Elmer Oil Co., No. 1 County, San Joaquin Co.	6- 3- 9	...	location
Barnhart Trust, No. 1 Oakdale, San Joaquin Co.	3- 2-10	1,198	sd. sh. drilling
White, Ray, No. 1 Pixley, Tulare Co.	8-23-26	1,594	sd. sh. drilling
Terminal Oil Co., No. 1 Tulare, Tulare Co.	29-20-25	mtl.	building rig

Barnett Creek Church Pool Busy Spot

Rivals Muhlenburg County in Active Development in Kentucky Field. Both Furnishing Wells Above Average

By Whit
Staff Correspondent, Kentucky-Tennessee

OWENSBORO, Ky., Oct. 14. — The big development in Kentucky at present is taking place in the Barnett Creek Church Pool, in Ohio County, which develops big wells in the shallow sand, and in the deeper sands of Muhlenberg County, which are also furnishing wells far above the average, and these two fields are now being closely watched. In the Barnett Church Pool, the Illinois Pipe Line Co. was compelled to lay another 4-inch line to take care of the crude and has a 55,000-bbl. storage tank nearing construction at Doyle Station along the Ohio River, east of Owensboro, to store the crude.

A communication from a well-known operator in the Owensboro Field, in reference to the past and present, says:

From the time the first small wells were drilled in the western edge of Hancock County to the present, when several counties are being drilled, is an epoch. Hancock County, the first to be drilled locally, is making less than ever before, due largely to the wells first drilled being pumped down low and abandonment of the field for the Ohio County pools which have proven more lucrative. However, in the Pellville section, where the early wells were drilled, continuing over into eastern Daviess County, the production is very satisfactory to the operator having wells in that section. After 10 years of pumping the wells in that section are still producing better than in some of the more eastern fields, where wells producing a barrel a day are considered good wells.

From the Pellville Field the operators dropped down into Ohio County where the big Weller-Ambrose, Fannie Lake Pool was found and with feverish haste many wells were drilled. This has been extended down the Hartford Road by a network of leases and drillings that makes the map look like a continuous oil river might underlie the entire territory. Operators here contend this is a continuation of the Pennsylvania oil field, for when the maps are joined and the trail followed, there is an almost continuous line of production from that territory down through the states. The field continues on through in the same broken line down into the Muhlenberg section where the latest heavy producing wells are obtained.

In the wells south of Greenville, in Muhlenberg County, the character of oil is very similar to the Pennsylvania product, the oil men say, and is very different from that obtained around Owensboro. In the Muhlenberg wells an oil of paraffin base and of a yellowish green color is obtained in great quantities, and is of much higher gravity than the Owensboro oil. Oil from the Ohio, Hancock, Daviess, McLean and Henderson County Pools is of an asphalt base and lower gravity than the Pennsylvania oil but much higher than most of the western oils obtained in such great quantities.

All available rigs in this section are at work drilling now and operators would use more if they were obtainable. Since finding the big wells in the Barnett Creek Church Pool, in northern Ohio County, there have been other operators come in, and reports from the Oklahoma and Texas fields are that operators there are preparing to come into the rich shallow field to look over conditions and line up some acreage to develop.

Numerous dry holes have been found in the Tri-County Field since the last review, in both Ohio and Daviess Counties.

Week's Work

A summary of the week's work in the Kentucky fields shows 40 completions, 21 producers with an initial production of 1,435 bbls.; 17 dry holes and 2 gas wells.

County—	Comp.	Oil wells	Prod.	Dry	Gas
Ohio	24	12	845	12	0
Daviess	15	9	590	5	1
Jackson	1	0	0	0	1
Total	40	21	1,435	17	2

Ohio County Wells

The Rex-Pyramid Oil Co.'s No. 10, on the Sally Hoover farm, in the Barnett Creek Church Pool, in Ohio County, is one of the largest shallow sand producers yet found in western Kentucky. Depth, conduct and output are the determining factors that place this producer to the fore. It got its pay at 600 feet and with a nice gas pressure flowed furiously, but soon the well flowed at the rate of 50 bbls. an hour and has been standing at that, making it a producer with a lake of oil behind it. The tools remained in the hole in an effort to hold back the heavy flow on account of lack of tankage, but now that the new 4-inch line is completed, the tools will be lifted from the well which will be allowed to produce part open. The well for the past couple of weeks has made according to report close to 5,000 bbls. It is said to be by far the heaviest flowing well yet found in Ohio County, and that from a stray sand. It is the opinion of the oil men in general that more productive wells will be developed in the future in still lower formations over the wide territory, and it is said plans are under way for the establishment of deep drilling outfits and standard drilling rigs. New machines are coming into the field daily to augment the battery of the hundred or more located in many areas in and surrounding the Tri-County fields. Some fine producing wells are also being found in the Friendship Church area of the same county, not far from Dundee.

In the Morgan Pool, close to the Bartlett and Barnett Creek Church Pools, the Rex-Pyramid Oil Co.'s No. 8, on the William Morgan farm, is rated good for 200 bbls. or better initial production.

Sunnydale Pool

The Wood Oil Co.'s No. 14, on the R. A. Duke 200 acres, in the Sunnydale Pool, is reported at 110 bbls. initial with No. 15 about due for completion, as well as No. 14 on the R. A. Smith farm.

James C. Ellis and others' No. 6 Greer farm, in the Whittaker Pool, estimate 70 bbls. initial, and No. 5 A. P. Ralph 65 acres, same pool, 11 bbls. at 420 to 427 feet and 442 to 445 feet.

Ohio Oil Co.'s No. 10 W. B. Kelley 105 acres, Whittaker Pool, made 54 bbls. This well had 574 feet of casing set, sand from 581 to 598 feet, total depth 602 feet. Same company's No. 1, on the O. F. Pfister 175 acres, in the Friendship Church Pool, and adjoining the Pate Royal lease, is reported showing for 50 bbls. at 675 feet.

H. L. Ogle and others' No. 16 Pate Royal lease, in the Friendship Pool, is showing for 75 bbls. initial, and Nos. 17 and 18 about due for completion, as well as Nos. 19 and 20, same farm.

In the Deanfield area, S. H. Russell and others' No. 9 Mary Brown heirs, rated at 60 bbls. initial. Same parties' No. 2, on the W. Midkiff 88 acres, same area, is good for 54 bbls. initial. In this well a string of 670 feet of casing was set, pay from 678 to 699 feet, total depth 704 feet.

C. E. Daugherty's No. 4 W. A. Hewlett farm is a 5-bbl. pumper. Petroleum Exploration Co.'s No. 1 W. M. Rhodes, near Deanfield, pumped 3 bbls.

Wood Oil Co.'s No. 11 J. E. Mitchell 130 acres, produced but 2 bbls. Same Co.'s No. 13 J. C. Smith farm; No. 1 Earnest Duke farm, and No. 1 C. C. Powers farm, were all dry holes.

J. A. Sweatt and others, of Oklahoma, drilled a dry hole on the J. F. Magan farm, near White Sulphur Springs. Rex-Pyramid Oil Co.'s No. 1 Viola Chapman, and No. 1 Joe Miller, were dusters. Wittmer Oil & Gas Co.'s Nos. 2 and 3 on the Tom and Lester Shiveley farm, were among the dry list. Three C's Oil Co.'s No. 1 Widow Lashbrook farm, a dry hole, and Huff and Calderwood's No. 1 Simon Wigg was dry. E. G. Purtle and others' No. 3 on the Charles Roach north 130 acres, was among the late dusters brought in.

Daviess County

The best well of the week in the Owensboro Field of Daviess County was Evans & Garrison's No. 2 on the Davis heirs, in the Red Hill district, reported at 200 bbls. initial, while No. 1, same farm, was a duster.

Cumberland Petroleum Co.'s Nos. 7 and 8, on the S. H. Easton 75 acres, in the Burton Pool, are rated with initial production of 75 and 70 bbls. Same company's No. 5, on the Isabella Salmon lease, in the Salmon Pool, is said to be good for 30 bbls.

Penn-Indiana Oil Co.'s Nos. 9 and 10, on the First National Bank farm, near Whitesville, are reported at 95 and 60 bbls. respectively.

Eastern Gulf Oil Co.'s Nos. 10 and 11 Morgan C. Ruby, in the Red Hill area, are showing for 30 bbls. each.

Mecca Oil Co.'s No. 1, on the Zulu Johnson farm, south of Habit, produced 15 bbls. initial, and No. 2 is under way and near the pay sand. No. 1 was around 700 feet deep.

Missouri-Kansas Pipe Line Co.'s No. 3 on the Ivy farm, in the Jones Pool, southwest of Whitesville, produced 300,000 feet of gas.

Creek Drilling Co.'s test, on the R. I. Phelps farm, in the vicinity of St. Joseph, in the western part of the county, proved a duster after drilling to a total depth of 2,100 feet. Same company's No. 1, on the George Wagner farm, 1½ miles southwest of St. Joseph, was also a duster.

Jim Smith drilled a dry hole in No. 1 on the John Sinclair farm, and Engle, Evans and Garrison also drilled a duster in No. 1 on the Louis May 13 acres.

Field Pickups

In Jackson County, in the eastern division of Kentucky, the Petroleum Exploration Co. drilled a gas well showing 260,000 feet on the Warfork Land Co.'s property. Location for a second test on the same leases has been made.

The Petroleum Exploration Co. has purchased what is known as the Gathright Land Co.'s lease from the Kentucky-West Virginia Gas Co., located near Sturgeon, Wild Dog and Buffalo Creeks in Owsley and Jackson Counties, and joins the extensive gas property owned by the Petroleum Exploration Co. The property consists of approximately 4,200 acres and a gas well good for more than 2,000,000 feet of gas daily. The well which has been capped in since being drilled was put down to a depth of 1,105 feet and tested 2,151,080 feet. The consideration was not made public. It is from Owsley County that Petroleum Exploration Co. secures its gas that is piped to Lexington and sold to the Central Kentucky Gas Co. A line can be laid to the new well at little expense.

The finding of a light producer by the Cumberland Petroleum Co. in No. 4 on the Hayden lease in the Burton Pool, about 4 miles southeast of the Jones Pool, in Daviess County, in what is called the Mississippi lime, or what some call the McCloskey sand, at a depth of 1,250 feet, may cause a lot of drilling to the Mississippi lime formation and may lead to the discovery of some good wells in this structure.

NORTH TEXAS AND PANHANDLE AND WEST TEXAS COMPLETIONS

WICHITA COMPLETIONS

Archer County

Barnsdall Oil Co.'s No. 1 Wilson had an initial production of 60 bbls. at 1,713-14 feet. Heydrick & Stump's No. 1 White was dry and abandoned at 1,727 feet. Kemrow Production Co.'s No. 8 Campbell had an initial production of 5 bbls. at 700-709 feet. Shappell Oil Co.'s No. 11 Lyles had an initial production of 12 bbls. at 1,707-08 feet. Bridwell Oil Co.'s No. 3 Falls was shot with 35 quarts at 1,122-35 feet and had an initial production of 14 bbls. L. T. Burns' No. 1 Harris was dry and abandoned at 1,518 feet. C. B. Long and The Texas Company's No. 1 Dominez was dry and abandoned at 1,507 feet. M. V. Oil Co.'s No. 1 Kunkel had an initial production of 60 bbls. at 1,152-60½ feet. Pandem Oil Co.'s No. 1 Housler was dry and abandoned at 1,200 feet. Petroleum Production Co. and others' No. 10 Kunkel had an initial production of 98 bbls. at 1,116-38 feet.

Cook County

Danciger Oil & Refining Co.'s No. 8 Huggins had an initial production of 140 bbls. at 1,106-40 feet. Humble Oil & Refining Co.'s No. 6 Poteet had an initial production of 39 bbls. at 1,120-1,503 feet.

Montague County

Archer Drilling Co.'s No. 1 Salmon had an initial production of 25 bbls. at 850 feet. Bridwell Oil Co.'s No. 8 Edmondson had an initial production of 45 bbls. at 1,264-65 feet. Reynolds Drilling Co.'s No. 1 Bryant was dry and abandoned at 2,518 feet.

Jack County

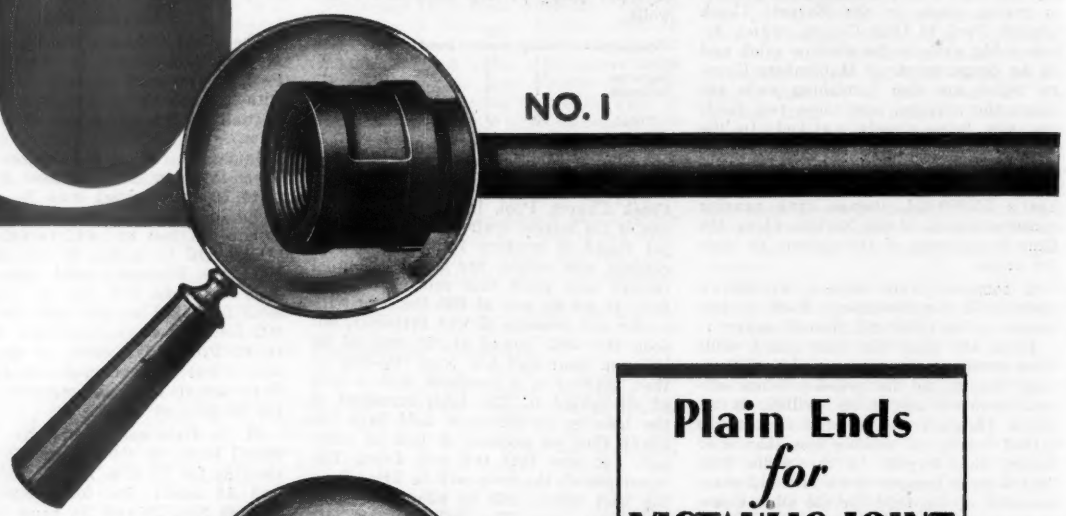
Prairie Oil & Gas Co.'s No. 2 Bryson was dry and abandoned at 4,835 feet.

Wichita County

R. R. Clark and others' No. 1-A Kennedy had an initial production of 5 bbls. at 1,875-87 feet and was drilled to a total depth of 1,900 feet. Akin & Raysor's No. 2 Burnett was dry and abandoned at 725 feet. John A. Dixon's No. 1 Logan was dry and abandoned at 1,902 feet. T. F. Hunter's No. 8-C Waggoner had an initial production of 20 bbls. at 1,465-83 feet. Mogren & Anderson's No. 2 Goetze was dry and abandoned at 828 feet. Their No. 3 Goetze was dry and abandoned at 1,019 feet. Their No. 4 Goetze was dry and abandoned at 830 feet. Their No. 5 Goetze was dry and abandoned at 827 feet. Their No. 6 Goetze was dry and abandoned at 503 feet. Their No. 7 Goetze had an initial production of 3 bbls. oil at 820-36 feet. W. B. Omohundro's No. 1-A Chilson had an initial production of 15 bbls. at 740-54 feet. Their No. 23 Pace had an initial production of 30 bbls. at 1,766-80 feet.

(Continued on Page 154)

CHROME



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CAST PIPE

Active Week in Central West Division

Largest Amount of Development in Central Ohio Where Gas Companies Are Doing Bulk of Work. Scioto Wildcat Interesting

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Oct. 14.—The week has been a rather active one in all divisions of the Central West Field, comprising northwestern and central Ohio, Indiana, Illinois and Michigan, the greater amount of development being centered in the Central Ohio regions where the large gas companies are doing the bulk of their work, making an effort to get a sufficient supply of gas to care for the consumers.

In the old Lima Field of northwestern Ohio, W. C. Richards and others' No. 7 well, 1,600 feet from the north line and 200 feet from the east line of the A. E. Waggoner farm, NE Section 11, Washington Township, Sandusky County, pumped an initial of 20 bbls. from the Trenton at 1,280-1,334 feet. In Ballville Township, same county, J. H. Murphy & Son found a small showing of gas in a purely wildcat venture, 800 feet from the north line and 250 feet from the west line of the William Infield farm, SE Section 31. Top of Trenton in this well was found at 1,376 feet and drilled 158 feet in the sand to a total depth of 1,534 feet. The well is reported to have a flow of around 200,000 feet in 24 hours and negotiations are under way between the well owners and the Ohio Fuel Gas Co. and if the deal goes through the well will be connected to the Ohio Fuel's high-pressure line on the Charles Zigler farm. The Infield well was drilled for oil by the Murphys, but on this occasion they failed to open up a new oil pool, as they did in a couple of instances in Seneca County, north of Tiffin.

Near Pemberville, in Freedom Township, Wood County, the Home Banking Co.'s No. 4 well, 1,125 feet from the south line and 300 feet from the west line of the H. G. Foos farm, SE Section 13, pumped an initial of 5 bbls. Sand was topped at 1,228 feet and drilled 52 feet in to a total depth of 1,280 feet.

C. A. and F. J. Peavy brought in a dry hole in No. 3 well, 1,200 feet from the south line and 250 feet from the west line of the E. F. Sandy, SE Section 12, Bath Township, Allen County, and northeast of Lima. The Trenton was topped at 1,336 feet and drilled to a total depth of 1,366 feet, or 30 feet in the Trenton.

Crawford County Test

At last report the test being drilled by the Local Oil Co. on the Catherine Walthers farm, Section 5, Liberty Township, Crawford County, was below 700 feet. This well is important, for there are possibilities of oil in the Niagara, Berea, Clinton or Trenton formations, being just on the east side of the old Trenton rock development and southeast of the old Tiffin Field of Seneca County.

C. G. Glass and Shellenberger are drilling on the R. Bowman farm, Section 32, Perry Township, Wood County, not far removed from Fostoria. Many years ago a few large producers were found in this township, but of late years only small pumpers have been uncovered. There is still a large acreage in the township that has not been given a test and nearly every county in the old Lima Field still has much acreage for wildcat work. Outside people have been looking over the eastern portion of Lucas County and east of Toledo along the south shore of Maumee Bay and along the south shore of Lake Erie, in both Lucas and Ottawa Counties, with a view of picking spots to secure acreage for drilling purposes. The finding of a small producer a few weeks ago on the Carl and Fred Ruhn farm, Section 9, Providence Township, in the western part of Lucas County, has also attracted some attention, for the oil people feel that when a small well is found in wildcat development chances are favorable for better wells by further testing out the surrounding territory.

CENTRAL OHIO

Thirty-one completions were reported from the Central Ohio fields during the week, of which 11 were producers with an initial production of 281 bbls., 5 dry holes and 15 gas wells. In new work starting for the period, there were 20 locations made and 37 wells started spudding, a total of new work of 57, indicating the continuation of activity in the field, a large portion of the wells being drilled for gas.

In Ashland County, Lake Township, the Mohican Oil & Gas Co.'s No. 6 B. B. Chesrown farm, Section 3, produced an initial of 35 bbls. from the Berea sand from 520-81 feet. William Freudenberger's test on the Albert Butler farm, Section 23, failed to find any sand and goes as a duster. Robinson and others' No. 3 H. C. Young farm, Section 22, same township, was dry from the Berea sand at 509-15 feet. Same parties are drilling No. 2 Albert Strang, Section 15, and No. 3 Phillip Shaffer farm, Section 16. The Kemrow Co. is drilling No. 3 Ben Evil farm, Section 20, Orange Township. Meltzer and others' No. 3 Michael Ott, Sr., Section 24, Mohican Township, was dry in the Berea from 681-86 feet. W. J. Smith is drilling No. 3 W. G. Obrecht farm, Section 32, and B. Slagel has abandoned his location for No. 1 on the A. and H. Metcalf farm, Section 21, same township, although Nos. 2 and 3 same farm were drilled some time ago. Kemrow Co. is drilling No. 1 C. L. Arnholt, Section 6, Montgomery Township, and made a location for No. 2 C. W. Hiner, Section 1.

In the Chatham Field, Chatham Township, Medina County, the East Ohio Gas Co.'s No. 7 J. and A. Jalensics farm, Lot 2, is reported doing 40 bbls. initial. No. 8 is drilling and No. 9 is starting. In Lafayette Township, same county, the Ohio Fuel Gas Co. is drilling No. 1-4,833 on the Atlas J. House, Section 6, and No. 1-4,859 Clara M. Jones, Section 29. Hulse & Kundtz made a location for a second test on the Mary J. Young, Section 33, same township. Ohio Fuel Gas Co. is drilling No. 1-4,835 on the Levi Derhammer farm, Lot 58, Westfield Township, same county.

Lorain County

In Lorain County, Carlisle Township, the Ohio Fuel Gas Co. is drilling No. 3-4,864 on the Julia Clark, Sections 13 and 18, and the Daugherty Co. is drilling No. 4 J. C. Palmer, Section 14.

In Wayne County, Congress Township, the Ohio Fuel Gas Co. has drilled in one nice gas well and another lighter, in No. 1-4,813 Brady Geitgey, Section 18, and No. 1-4,814 Jennie C. Stair, same section. Same company made a location on the Keeler-Anderson, Section 1, same township. Same company is drilling No. 1-4,846 on the C. W. Koffman, Section 12, Chester Township. Harmon & George are starting No. 2 Elliott M. Myers, Section 8, same township. Ohio Oil Co. has a light gas well in No. 5 on the W. M. Orr farm, Section 21, Wooster Township, from the Berea sand at 493-95 feet.

In Holmes County, the Ohio Fuel Gas Co. brought in a nice gas well in No. 1-4,718 on the Charles Garver farm, Sections 6 and 15, Richland Township, and made a location in the same section on the Lena Alexander farm. Same company made a location on the Levi Yoder, Section 29, Paint Township. East Ohio Gas Co. made a location for No. 3 on the Christian Schlarbm, Section 19, Hardy Township.

In Richland County, Worthington Township, the Ohio Fuel Gas Co.'s No. 1-3,618 on the J. W. Sellers farm, Section 24, is a very good gas producer.

In Knox County, Brown Township, the Upham Gas Co. made a nice gas strike on the Rebecca Kunkle farm, Section 6, and the Ohio Fuel Gas Co made a location on the Charles S. Peatei, Section 25, same township. Arkansas Natural Gas Co.'s No. 22 on the L. V. Dugan, Section 21, Jackson Township, same County, is reported good for 5 bbls. initial. Upham Gas Co. is drilling No. 2 on the George W. Crise, Section 3, Butler Township, not far from where oil has been found in the past. Same company is also drilling on the James Davis farm, Section 6, Monroe Township, same county.

In Coshocton County, Pike Township, Spindler and others made a location for No. 5 on the J. Wolford farm, Section 24, and Bell Brothers are drilling on the John Hall, Section 9, Tuscarawas Township.

Summitt County

In Summitt County, Franklin Township, F. A. Brendall and others drilled in three wells, two being good gas producers and one a dry hole. The dry hole was on the John Steigner farm, Section 24, where a broken sand was developed from 4,064-98 feet. The gas wells are No. 1 on the Ed Dunn farm, Section 34, and the other being No. 2 Levi Stump farm, Section 22, the gas being found from 3,980-3,991 feet. Same parties are drilling on the Aaron O. Gaston farm, Section 13, same township. Akron Club Co. is drilling on the Frank S. Lahm, Section 12, and Pille and others are working on the Pille-Myers, Section 16. East Ohio Gas Co. made a location for a second test on the Frank K. Mason, same section. In Greene Township, same county, the East Ohio Gas Co. made a location on the F. N. Steiner, Section 18.

Licking County failed to report any completions. In Fallsburg Township, the Emerald Petroleum Co. made a location for No. 6 on the James E. Martin, Section 9. Armstrong and Lytle are drilling No. 15 on the J. W. L. Motherspaw farm, Section 12, Franklin Township. In Perry County, the Hope Construction & Refining Co. is drilling No. 3 James Wright, Section 14. Ohio Fuel Gas Co. is drilling on the J. C. Scanlon, Section 9, and Koontz & Schulte are drilling No. 11 John Chaney, Section 1. North Fork Oil Co. is drilling No. 9 John C. Williams, Section 3, Hanover Township, and the Pure Oil Co. made a location for a second test on the Homer C. Priest, Section 7.

In Muskingum County, Washington Township, Palmer & Geisinger found a dry hole on the John M. Riley, Section 3. Top of Clinton in this hole was found at 3,815 feet, a small show of gas being found at 3,846 feet, bottom of Clinton at 3,875 feet and drilled in the Red Rock from 3,945 to 3,967 feet. In Falls Township, the Athey Drilling Co. is drilling No. 1 on the Edward D. Walker farm, and made a location for a second test. Preston Oil Co. is drilling No. 2-1,359 J. W. Varner, Section 5, Hopewell Township. In Jackson Township, the Hope Construction & Refining Co.'s No. 9 W. E. Helphrey, Section 5, pumped 27 bbls. initial from 3,130-73 feet. Longfellow and others are drilling on the L. B. Jackson, Section 12, Perry Township, and the Heisey Gas Co. is drilling on the John G. Sidle, Section 5, Licking Township.

Athens County

In Athens County, D. T. Orondorff has an average sized gas well on the Charles W. Wolfe, Section 25, Ames Township, in the lower Berea sand from 1,565-83 feet, total depth 1,598 feet. In Berne Township, the Ohio Fuel Gas Co. has a light gas well in No. 1-4,740 R. B. McKinley farm, Section 34, in the lower Berea from 1,567-86 feet, total depth 1,594 feet, and now drilling No. 2-4,825 same farm. In Lodi Township, the same company is drilling No. 1-4,856 H. A. Pinkerton, fractional Section 56, and No. 1-4,858 on the J. P. Lantz, fractional Section 51, while in Lee Township, the same company's No. 1-4,824 on the Elsa Enlow farm, Section 6, produced 4 bbls. of oil from the upper Berea at from 1,268-70 feet. Three Way Oil Co. had a light gas well on the S. A. Cross farm, Section 19, at from 660-825 feet, total depth 1,000 feet, but got a fishing job and bunged up the hole so that the gas could not be saved. In Waterloo Township, the Ohio Fuel Gas Co. has an average gas well in No. 1-4,861 on the T. N. Hoover, Sections 1 and 2, in the upper Berea from 1,111-16 feet. Fox & Mosure got a dry hole in No. 8 on the Robert Bean, Section 18, Cannon Township, in the Cow Run sand at 105 feet.

In Meigs County, Sutton Township, the Preston Oil Co.'s No. 2-1,361 Mary A. Davis farm, Section 18, produced 24 bbls. initial from the Mitchell sand from 440-53 feet. Southern Petroleum Co.'s second test on the Peter Karr, Section 11, was dry in the upper Cow Run sand from 668-77 feet, total depth 698 feet. Hazlett and others are drilling a second test on the Belle Spencer, same section. In Bedford Township, the Preston Oil Co. found a good gas well in No. 2-1,357 D. A. Davis, Section 26, in the Maxon sand from 955-59 feet. Ohio Fuel Gas Co. made a location on the John Chaney, Section 21. Same company got an average gas well in No. 1-3,510 Lanston Archer farm, Section 35, Salisbury Township, in the Maxon sand from 1,043-51 feet. Bowman & Deem are drilling on the Earl Jewell, Section 7, Lebanon Township, same county.

Jackson County

In Jackson County, the Ohio Fuel Gas Co. struck a duster in No. 1-3,263 on the J. A. Ford, Section 23, Lick Township, going through the Clinton to the Medina formation at 2,863 feet. Penn Ohio Gas Co. is drilling a second test on the Samuel Sonne farm, Lot 63, same township, and the Ohio Fuel Gas Co. is drilling No. 1-3,579 on the W. L McGhee, Section 10, Coal Township.

In Vinton County, Knox Township, the Co-operative Oil Co. struck a gas well in No. 3 on the Cameron Clark farm, fractional Section 3, which was good for 6 bbls. along with the gas, from the Berea sand at 1,119-28 feet. In Swan Township, the Ohio Fuel Gas Co is drilling No. 1-4,848 on the Ellen McQuade, Section 35, and made a location on the Charles C. Karnes, Section 34, same township.

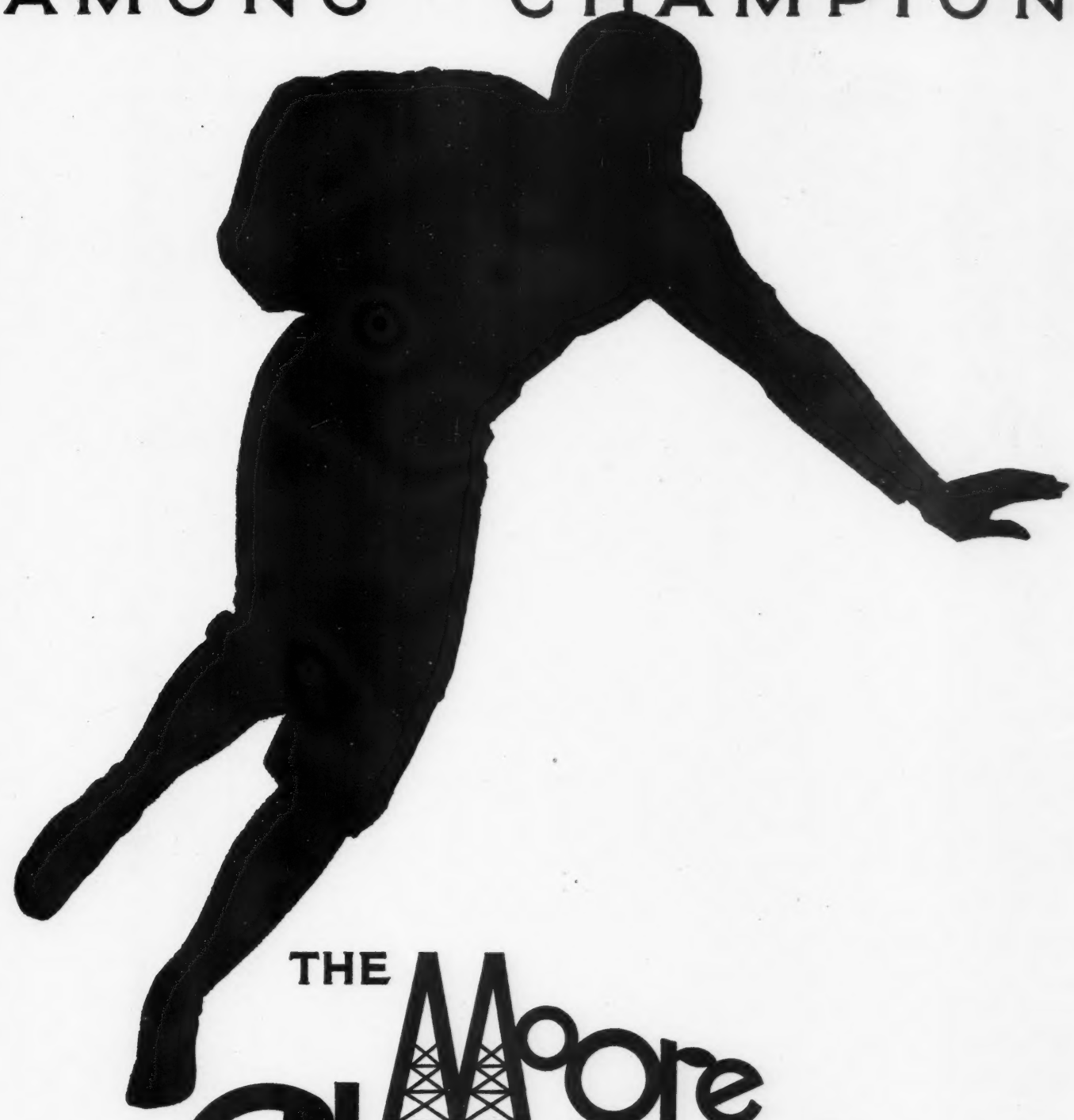
In Stark County, F. A. Brendall and others are starting a test on the Charles Smith farm, Section 3, Lawrence Township.

In Fairfield County, Pleasants Township, the City Natural Gas Works made a location for No. 3 on the John Mertz, Section 14.

In Guernsey County, Wheeling Township, the Alloway Oil & Gas Co.'s No. 5 J. D. Alloway farm, Section 10, is

(Continued on Page 152)

AMONG CHAMPIONS



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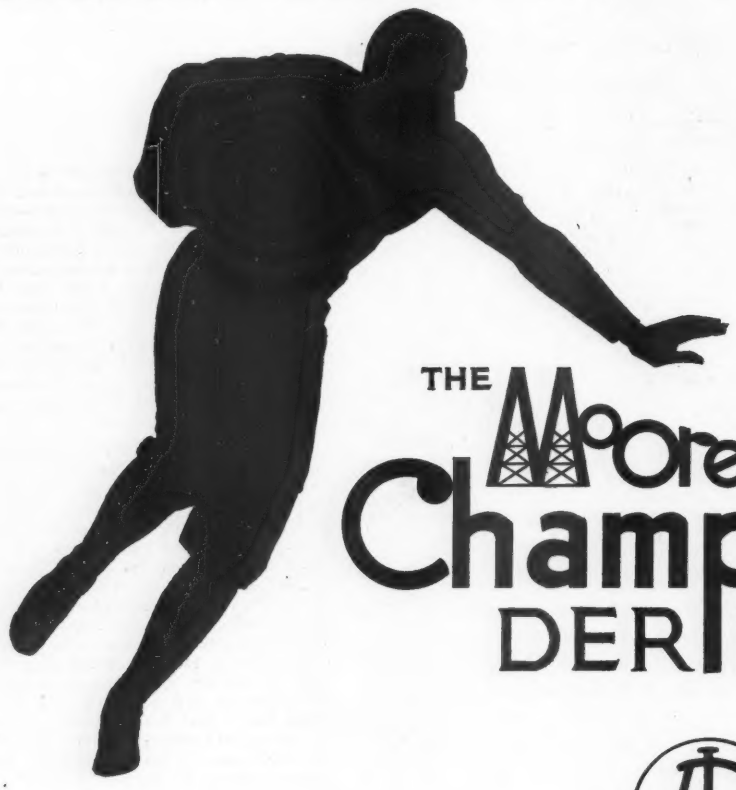
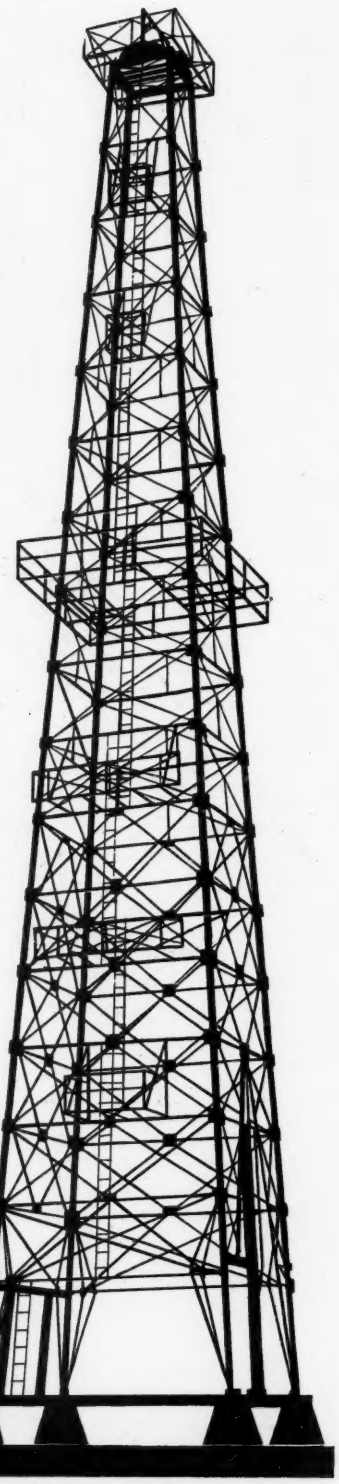


THE Moore Champion DERRICK



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Stocks in All Principal Fields

Second Deep Producer in Big Lake Field

Dry Holes in Taylor-Link and Rowan and Tong Areas. Taylor County's First Pool Opener 300-Bbl. Well

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Oct. 14.—Tincturing of the Taylor-Link and Rowan & Tong areas of Pecos County with several dry holes, the proving of two of last week's three discoveries, and the second deep producer blowing in in the Big Lake Field, were the high lights in the Permian Basin this week.

The Humble Oil & Refining Co., owner of half interest in the R. R. Penn and Humble's No. 1 Kloh-Rumsey in Ector County, has taken over the operations of this new wildcat, discovered last week, but the well is still shut in for storage or pipe line connections after deepening to 3,744 feet from 3,727 feet where it was shut down last week. The first pay was encountered from 3,715-18 feet, an increase was found from 3,720-25 feet and the big pay was encountered from 3,730-38 feet this week when the well was deepened. On a 24-hour gauge ending 7 a.m., October 13, the well flowed 312 bbls. by heads every two hours, making it look like a rather promising producer, and much better than any of those found in the Connell Pool 2½ miles to the west. These wells show no daily average production, although they produce a little oil, intermittently, and it now appears as if they were drilled on the west edge of the structure, the new discovery well, being located more on the top, consequently proving a much better well.

Two 1,000-bbl. tanks have been set for the production, and another is about completed, but it is believed a gathering line will be run from the well to the Humble Pipe Line Co.'s two 8-inch lines running down from Winkler County to McCamey, about 14 miles south of the well. Such a gathering line would save the erection of a large amount of storage to take care of the production, and as the Humble Oil & Refining Co., sister company to the Humble Pipe Line Co., has a large amount of acreage around the well, it is quite obvious the line will be laid to the new area.

Taylor County

Taylor County's first pool opener, Dunnigan Brothers and Shell Petroleum Corp.'s No. 1 Davidson, 4 miles southwest of Tye in the south half of the W. R. Willis Survey, which came in Sunday, October 6, is still shut down for storage after swabbing 463 bbls. during the first 33 hours following swabbing off the head, looking good for at least a 300-bbl. well as it now stands.

Geologists and paleontologists are not agreeing on whether the production is coming from the Cook or King sand, some calling it one, and others claiming it to be the other. Nevertheless it is producing high gravity, sweet oil, which is an important feature.

The Shell Petroleum Corp. leased a block of 4,487 acres on which the well is located and gave 2,203 acres to the Dunningan Brothers of Breckenridge for drilling the test. Snowden and McSweeney own four 80s around the well, paying $15 per acre at the time the well was spudded. These three companies are the principal holders of acreage near the discovery, and only one lease trade has been made since it was discovered last week. This trade was made by Gibson and Johnson of Abilene. They leased a block of 429 acres 1 mile south of the test, paying $20 per acre and agreeing to start a well in 90 days after title is approved.

The Gulf Pipe Line Co., Magnolia Pipe Line Co. and Humble Pipe Line Co., have trunk lines running within 12 miles of the well, but it is reported they have refused to take the oil due to the fact that all three are running to capacity, carrying crude from the fields farther west. The Shell Pipe Line Co. has no line in this area, its closest line running from McCamey to Healdton, Okla., passing through the northeastern edge of Fisher County, about 35 miles northwest of the Taylor County discovery, but it is quite possible a gathering line will be run from some point on that trunk line to this new area if the acreage proves as profitable as it now appears.

Snowden and McSweeney have made a location in the southeast corner of their 80-acre tract offsetting the discovery well to the northwest, which will help to prove up the acreage around the well, and substantiate the possibilities of the new area.

Ward County Wildcat

The third wildcat discovery of last week, the Alpine Oil Co.'s No. 1 J. F. Boogher, 2,450 feet from the northwest and 854 feet from the most westerly southwest line of Section 11, Block 5, H.&T.C. Survey, Ward County, was drilled to 2,145 feet from 2,140 feet where it was shut down last week after encountering 100,000 feet of gas and a good showing of oil at 2,135 feet, and the hole filling 800 feet with oil.

After deepening it had 1,500 feet of oil in the hole, and 500,000 feet of gas, 40 feet of cavings possibly retarding a better showing, or even preventing it from making flows. The hole will be cleaned out and a test made to see what the outcome will be at this depth. There is a chance of the company shooting the pay formation to loosen up the lime, as was done in the Penn and Atlantic Oil Producing Co.'s No. 1 Pecos Mercantile (Bennett) several miles to the northwest It is now making about 250 bbls. daily. Pay formations in the three southern pools of Ward County are practically the same, the prime difference being the depths at which they are encountered. The Atlantic Pipe Line Co. will probably extend its 4-inch line from the Shipley Pool to this new area, if it proves worthy of an outlet.

Western Pecos County

The Phillips Petroleum Corp.'s No. 1 Pryor (Courtney), in Section 78, Block OW, which formerly had promises of opening a new pool in western Pecos County, about 9 miles northwest of Fort Stockton, from pay found at 1,345 feet and produced 378 bbls. of 22.0 gravity oil at a total depth of 1,367 feet before deepening, has been abandoned at a total depth of 4,375 feet. The company's No. 2 Pryor topped a pay at 1,325 feet this week and is now shut down at 1,397 feet with 900 feet of oil in the hole. This well is only 300 feet from No. 1, with only 7 feet difference in elevation, but the pay is considerably lower. This is the second well in this area to have a showing of any consequence, one other, the company's No. 1 Bowser, failing to pick up the pay found in Nos. 1 and 2 Pryor, and being abandoned as dry. The two wells having the showings of such good proportions may not be commercial producers, but the showings tend to signify that other prospecting in the area may prove up something worth while, and other wells, making commercial producers may yet be located because of these indications of oil in the area.

Rowan and Tong Area

Two offset wells to the Independent Oil & Gas Co. and Rowan & Tong's No. 1 McDonald, in Section 46, Block 12, H. &G.N. Survey, have been abandoned this week, giving this new pool an exceedingly black eye. The first well to be plugged is the Tidal Oil Co.'s No. 1 McDonald, a southwest offset. It had an estimated 3,000,000 feet of gas at 1,365 feet, but sprayed sulphur water at 1,390 feet and is being abandoned at 1,390 feet. The second well belongs to the Landreth Production Co., located 330 feet from the north and east lines of the southeast quarter of the section. It is being abandoned as dry at 1,698 feet.

Sun Oil Co.'s No. 1 University-Carlson, 990 feet from the north and 1,350 feet from the west of Section 34, Block 18, south of the Taylor-Link Pool, is shut down at 1,974 feet after encountering water at 1,830 feet. The company's No. 2 University, in Section 8, Block 17, is also shut down at 1,715 feet, after shooting with 80 quarts of nitroglycerin from 1,588-1,602 feet in hopes of making a producer. The lease was about to expire, but if the well could have been made to produce it would have validated the lease. It had a showing of oil at 1,602 feet. These two wells do not help to cast a very rosy glow over this area, nor have some of the others which have reached depths at which the pay formations should have produced in commercial quantities.

The Landreth Production Co. did complete a good well in its No. 2-C University in this area of Pecos County, located in Section 31, Block 16, from a total depth of 1,355 feet where it topped the pay and was shut down. It came in with about 10,000,000 feet of gas and making 70 bbls. hourly, but the last gauge reported, showing it flowing 375 bbls. in 21 hours, quite a decline from the initial production.

Taylor-Link Pool

The California Co.'s No. 1 University-Landrum, in Section 12, northwest of the discovery well of the Taylor-Link Pool, defines the pool in that direction, it would seem, for the well began spraying sulphur water from 1,697-98 feet. It had an estimated 6,000,000 feet of gas from 1,613-25 feet and sprayed 20 bbls. of oil per day from this pay, but water was encountered upon drilling deeper and the well will no doubt be abandoned.

These apparent failures make the prospects of these two new pools diminish rather rapidly, and during the coming week we will probably see more failures in this area, and also probably the completion of other producers, for it seems as if the lentil formation theory is being proved out beyond a doubt, the bit finding producers in some of the tests while others will be found unproductive, both areas not yielding as much oil as was first expected, and the two pools not proving such threats to overproduction,

(Continued on Page 106)

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended October 14

Company, farm and location—	Remarks—
ANDREWS COUNTY	
Deep Rock's No. 1 Ogden, 2,310 ft. E, 330 ft. S, Sec. 6, Blk. A-46, Public School Land	Shut down 1,640 ft.; underreaming 10-in. casing 1,377 ft.
BORDEN COUNTY	
Louisiana Oil & Ref. Co.'s No. 1 Miller, 1,320 ft. from W and 150 ft. from S line, Sec. 355, Blk. 97, H.&T.C.	Top lime 2,300 ft.
Moncrief et al's No. 1 Munger, C of SW, Sec. 14, Blk. 31	Drlg. 1,940 ft.
Teas & Wheeler's No. 1 Long, 1,320 ft. N and E of Sec. 27, Blk. 30, T.&P. Sur.	Top salt 1,030 ft.; drlg. 3,125 ft.
BREWSTER COUNTY	
E. W. Bateman et al's No. 2 Nevill, 2,000 ft. S and W line of Sec. 62, Blk. 13, G.H.&S.A.R.R. Sur.	Shut down 2,174 ft.
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F.	Shut down 1,935 ft.
Cowden & Bowser's No. 1-A Jackson & Harmon, Sec. 1, Blk. 331, T.C.R.R. Sur.	Set 8-in. 1,550 ft.; shut down 2,000 ft.
Forrest Oil Co.'s No. 1 Skinner, C SW SE, Sec. 100, Blk. 2, G.C.&S.F. Sur.	Drlg. 680 ft.
J. M. Hickey's No. 1 Jackson & Harmon, NE cor., Sec. 182, Blk. 9, G.H.&S.A. Sur.	Shut down 2,000 ft.
Johnson & Weekley's No. 1 Jackson & Harmon, C Sec. 104, Blk. 10, G.H.&S.A. Sur.	Drlg. 4,070 ft.; show oil 3,977-88 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,740 ft.
COKE COUNTY	
Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T.C. Sur., elev. 2,750 ft.	Shut down 2,892 ft.
Mid-Kansas Oil Co.'s No. 1 W. E. Lackey, 330 ft. N and E of SW cor., Sec. 272, Blk. 1-A, H.&T.C.	Pay 3,755-56 ft.; 6⅝-in. casing set 3,451 ft.; underreaming at 4,058 ft.; drlg. 4,096 ft.
CONCHO COUNTY	
Duffy et al's No. 1 Callan, 1,520 ft. N and 1,120 ft. W of SE cor., Sec. 21, Blk. 10, H.&T.C.R.R.	Spudded and shut down.
Jones & Leiner's No. 1 Jones, 420 ft. S and 15 ft. E of NW cor. John G. Reh Sur. No. 1,378	Top lime 1,770 ft.; top pay 1,775-80 ft.; 18 ft. oil in hole; to test; shut down 2,375 ft.
Turner et al's No. 1 Borsig, 150 ft. from S of SE cor. G. Emig Sur. 130, 6 mi. W of Paint Rock	Shut down 735 ft.
CRANE COUNTY	
Church & Field's No. 4 University-Dewell, 2,310 ft. N and 990 ft. E of SW cor. Sec. 39, Blk. 30, University Land	Location.
Duffey et al's No. 6 Cowden, 990 ft. from S, 1,650 ft. from E, Sec. 18, Blk. T.	Shut down 2,000 ft.
Gulf Prod. Co.'s No. 67 McElroy, 2,102 ft. S and 2,640 ft. W of NE cor., Sec. 301, Blk. F, C.C.S.D.& R.G.N.G.R.R.	Shut down 2,965 ft.; swabbed 55 bbls. oil.

(Continued on Page 107)

WEST TEXAS PRODUCTION

Week ending October 12

County—	Wells	Prod.
Crane	318	37,274
Crockett	44	1,654
Ector	3	....
Fisher County	7	1,395
Glasscock-Howard	398	38,326
Jones County	73	2,740
Loving	14	891
Mitchell County	142	2,552
Pecos County	334	133,125
Reagan County	249	17,855
Runnels County	3	18
Scurry County	5	30
Upton County	242	9,400
Ward County	14	1,625
Winkler County	600	120,034
Total this week	2,446	366,919
Total last week	2,434	371,972
Difference	12	5,053

Young County Retains Stage Center

Cochran County Well, 50 Miles West from Lea County, N. Mex., Production, Swabs 65 Bbls. Gray County Decline

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Oct. 14.—Young County retained the center of the stage of activities in the Wichita Falls district this week, while the Continental Oil Co.'s well in Cochran County was the most interesting feature of the Panhandle district, although a decrease of over 9,900 bbls. in that district could not be nonchalantly passed over as too unimportant to notice by producers in North Texas.

L. A. Long and others' No. 1 Williams, located in the R. O. Woolfork Survey No. 15, Young County, which topped the Herron City sand last week from 2,385-94 feet and promised the opening of a considerable amount of territory in its vicinity, may be drilled deeper to the Moran sand if it declines too rapidly in the present formation. The Prairie Pipe Line Co. had but a small extension to make to reach this well, and is now running the oil. The well is producing around 200 bbls. daily. This discovery is about 3,000 feet north of the Sinclair Oil & Gas Co.'s No. 1 Moran which has been producing about six years from the Moran sand.

Lindsey and others' No. 1 Seddon, approximately in the center of the N half of the Henry Garms Survey, Abstract 104, about 4 miles north of the Long well, was shut down last week at 4,168 feet and pinched in for storage after flowing 100 bbls. the first hour from sandy lime topped at 4,165-68 feet, but this week the owners deepened it to 4,176 feet. It encountered more sandy lime at 4,174 feet and flowd 180 bbls. the first two hours. It is again shut in for storage at the present. After opening for a test it flowed only 38 bbls. in 24 hours, marking a rather rapid decline, but which may be due to cavings.

South Bend Extension

Transcontinental Oil Co.'s No. 1 Corbett, which was one of the main features of Young County last week, located in the Ruthy Campbell Survey, is now cleaning out at 4,055 feet, maintaining a flow of 17 bbls. per hour from 4,006-55 feet. This well came in for an initial production of about 700 bbls. per day, and the decline in production is no doubt due to cavings holding back the production. It is producing from the Strawn sand, and opened up quite an extension to the south of the South Bend Pool.

Continental Oil Co.'s No. 1-A Slaughter, located in the SW cor. of Section 130, Crosby County School Lands, is still testing, with the probabilities it will be shot again. Total depth of this well is 5,001 feet, but it was plugged back to 4,900 feet, and shot with 80 quarts of nitro from 4,860-75 feet. It is now standing with 2,000 feet of oil in the hole and 500 feet of water. On a three-hour test it swabbed 65 bbls. of oil and 3 bbls. of water. This is the best showing yet registered in Cochran County, and is at least 50 miles from production on the west in Lea County, N. Mex., and if the well proves a commercial producer it will open a large territory to exploitation, most of the counties in this section having had but little attention from the companies and operators heretofore.

The White Eagle Oil & Refining Co.'s No. 1 S. Faulkner, located in the SE cor. of Section 30, Block B-2, H.&G.N. Survey, proved up more territory on the east side of the Finley Pool in Gray County this week when the well topped the granite wash pay at 2,810 feet and flowed 60 bbls. of oil the first hour with 40,000,000 feet of gas.

Gray County Decline

Gray County decreased 9,240 bbls. this week, making the greatest decline in the Panhandle district, of which the total was 9,997 bbls. under the previous week, or from 116,760 bbls. down to 106,763 bbls. The Wichita Falls district dropped off only 873 bbls. while the Ranger district increased 1,595 bbls.

Fannin County's wildcat which aroused considerable interest last week was deepened to 2,771 feet this week, but failed to deepen into sand and find an increase in the showing of oil from 2,679-84 feet. This well is owned by the Imperator Oil Corp. and is located on the Owen farm in the SE cor. of the David Crenshaw Survey. It is now plugged back to 2,656 feet and is standing, waiting for orders. There is a possibility it will be shot to test the showing in the sand.

Production is running as follows in the Eastland or Morris Pool in Coleman County: White Eagle Oil & Refining Co.'s Morris lease, 6 wells, producing 918 bbls. daily; Gibson & Johnson's Crowder lease, 1 well, 1,493 feet; Midwest Exploration Co.'s Keeney lease, 4 wells, 131 bbls.; Levi Smith's Morris lease, 1 well, 31 bbls.; Tower & McKenna's Crowder lease, 1 well, 200 bbls.; Eastland Oil Co.'s Morris "A" lease, 7 wells, 295 bbls.; their "B" lease, 2 wells, 149 bbls.; their Keeney "A" lease, 4 wells, 257 bbls.

This pool is and has been the most interesting locality of Coleman County for the past three months, having seen the completion of many nice wells, both gas and oil producers, and the fact that the oil is high gravity and sweet, and the pool of considerable size makes it especially valuable. Much gas is taken daily from the pool by the Oklahoma Natural Gas Corp. for supplying surrounding towns, and two gasoline plants are to be built immediately. Most of the gas runs around 2 gallons to the 1,000 feet of gas.

Brown County

The George Pool in Brown County has been the outstanding feature in that county for some time, and this week an interesting sale near the pool held the attention of quite a few.

G. A. Buder, a St. Louis operator, purchased the north 66 acres of the west 100 acres of the S.A.&M.G. Survey No. 3 and the east half of the SE of the T. Townsend Survey, three-quarters of a mile southeast of the George Pool, paying $10,000 cash. There are two small Fry sand producers on the acreage, making around 8 bbls. daily. He recently purchased 20 acres of the S. C. Kessler lease in the western part of the pool, paying $35,000 cash and $17,500 in oil. At the time the purchase was made there was only one producing well on the lease, making about 400 bbls. daily flush production, and since the purchase two more have been completed. The lease is now making 740 bbls. daily.

Coleman County

Joines and others' No. 1 Stewartson in south central Coleman County, in Section 96, E.T.R.R. Survey, is now producing only 15 bbls. per day, but this may be due to 2 feet of the pay having been cased off, for the well has made one flow between the 6 and 8-inch casing since pipe was set.

This is the latest wildcat discovery in Coleman County, having been completed at total depth of 1,463 feet after topping the Brenecke sand at 1,455 feet. It is about 3 miles southeast of the Taylor-Link Pool on the Barker farm, which was opened about four months ago. The Humble Pipe Line Co. is extending a gathering line from the Barker Pool to the Joines well and will take the production from this area.

NORTH TEXAS PRODUCTION
Week ending October 12

Panhandle district—	Prod.
Carson County	9;592
Hutchinson County	26,546
Gray County	69,150
Moore County	893
Potter County	....
Wheeler County	582
Total this week	106,763
Total last week	116,760
Decrease	9,997
Wichita District—	
Archer County	18,587
Baylor County	68
Clay County	742
Cooke County	10,505
Foard County	224
Jack County	3,886
Haskell County	86
Montague County	6,411
Throckmorton County	644
Wilbarger County	30,910
Young County	6,489
Wichita County	25,591
Total this week	104,143
Total last week	105,016
Decrease	873
Ranger District—	
Brown County	10,496
Callahan County	3,470
Coleman County	7,590
Comanche County	1,245
Palo Pinto County	550
Eastland County	5,586
Shackelford County	9,980
Stephens County	6,370
Total this week	45,287
Total last week	43,692
Increase	1,595
Grand total this week	256,193
Grand total last week	265,468
Decrease	9,275

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending October 14
CARSON COUNTY

Company, well, farm, name, section and block—	Remarks—
Continental Oil Co.'s No. 1 Block, 330 ft. S and W, NE cor. SE, Sec. 111, Blk. 4, I.&G.N.R.R. Sur.	Drlg. 2,410 ft.
Danciger O. & R. Co.'s No. 1 Block, 330 ft. from N and E lines, Sec. 112, Blk. 4, I.&G.N. Sur.	Drlg. 2,745 ft.
Delmar Oil Co.'s No. 5 Noel, 330 ft. S and W, NE cor. W½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	S.G. 3,000-10 ft; S.D. 3,131 ft.
Empire G. & F. Co.'s No. 1 Fields, 1,650 ft. from N and E, Sec. 13, Blk. 7, I.&G.N. Sur.	Shut down.
Empire G. & F. Co.'s No. 1 M. P. Co. "C," 330 ft. N and W, SE cor. NW, Sec. 108, Blk. 4, I.&G.N.R. R. Sur.	S.D. 3,305 ft; to plug back.
Empire G. & F. Co.'s No. 2 Deahl, 660 ft. N and E, SW, Sec. 3, Blk. 5, B.&B. Sur.	Location.
Gulf Prod. Co.'s No. 3 Cooper, 330 ft. S, 990 ft. W, NE cor. SW, Sec. 9, I.&G.N.R.R. Sur.	1,500 ft. oil in hole; T.P. 3,040 ft; S.D. 3,130 ft; swbd. 275 bbls. in 18 hrs.
Gulf Prod. Co.'s No. 4 Cooper, 330 ft. S and E, NW SW, Sec. 5, Blk. 9, I.&G.N.R.R. Sur.	S.D. 3,135 ft; swbd. 202 bbls. in 11 hrs. after shot.
Herragan Oil Co.'s No. 1 L. C. McConnell, 330 ft. N and W lines, W½ SW, Sec. 187, Blk. 3, I.&G.N. Sur.	S.G. 2,780 ft; increase from 2,860-2,908 ft; S.D. 2,925 ft.
Osborne et als' No. 3 Percival, 330 ft. N and W, SE cor. E½ NE, Sec. 199, Blk. 3, I.&G.N.R.R. Sur.	Location.
Phillips Pet. Co.'s No. 1 Garner, 330 ft. N and E, SW cor. SW, Sec 114, Blk. 4, I.&G.N. Sur.	Drlg. 2,440 ft.
Prairie O. & G. Co.'s No. 2 Nail, 330 ft. from N and W lines, N½ E½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	10,000,000 ft. gas 2,830-2,985 ft; set 6-in. csg. 3,110 ft.
Red River Gas Co.'s No. 3 Lee Bivins-A, C SE SE, Sec. 43, Blk. M-20, G.&M.R.R. Sur.	S.D. 550 ft.
Reynolds et als' No. 2 Cooper, 330 ft. from S and W lines, E½ NW, Sec. 5, Blk. 9, I.&G.N. Sur.	Drlg. 2,160 ft.
Ryan Cons. Oil Co.'s No. 5 Block, 330 ft. N and W, SE cor. NE, Sec. 111, Blk. 4, I.&G.N. Sur.	Drlg. 2,371 ft.
Ryan Cons. Oil Co.'s No. 6 Block, 330 ft. S, 990 ft. E, NW NE, Sec. 111, Blk. 4, I.&G.N. Sur.	Drlg. 856 ft.
Shell Pet. Corp.'s No. 1 Percival, 330 ft. from N and E, SE, Sec. 199, Blk. 3, I.&G.N. Sur.	Rig.
Skelly Oil Co.'s No. 19 Schafer, 330 ft. N, 990 ft. E, SW cor. NE, Sec. 198, Blk. 3, I.&G.N. Sur.	6,000,000 ft. gas 2,895-2,970 ft; S.D. 3,100 ft.
Skelly Oil Co.'s No. 20 Schafer, 330 ft. N, 990 ft. W, SE cor. N½, Sec. 198, Blk. 3, I.&G.N. Sur.	S.D. 3,090 ft.
Skelly Oil Co.'s No. 21 Schafer, 340 ft. N, 1,540 ft. W, SE cor. SE, Sec. 68, Blk. 4, I.&G.N.R.R. Sur.	Location.
Stubblefield et als' No. 1 Garner, 330 ft. from S and E lines, SE, Sec. 104, Blk. 4.	S.D. 3,042 ft; T.P. 2,990-3,024 ft; I.P. 25 bbls.
The Texas Co.'s No. 4 Lewis, 330 ft. N and E, SW cor. NW NE, Sec. 115, Blk. 4, I.&G.N.R.R. Sur.	Drlg. 1,300 ft.
The Texas Corp.'s No. 2 Noel, 990 ft. from S, 330 ft. W, NW, Sec. 187, Blk. B-3, I.&G.N. Sur.	Drlg. 1,990 ft.

(Continued on Page 111)

PANHANDLE COMPLETIONS

Week Ending October 12

Cottle County

Exploration Co. of Texas' No. 3 Matada was dry and abandoned at 4,005 feet.

King County

Huff Oil Co.'s No. 1 Mary Martin was temporarily abandoned.

Gray County

Gulf Production Co.'s No. 8-A Bowers was drilled to a total depth of 3,057 feet and had an initial production of 525 bbls. This well topped the pay at 3,004 feet and had a show of oil at 3,001-04 feet. Ray & Massie's No. 5 Chapman was dry and abandoned at 2,858 feet. Champlin Oil & Refining Co.'s No. 2 Jackson, located in Section 60, Block B-2, H.&G. N.R.R. Survey, was dry and abandoned at 4,125 feet after spraying 5 bbls. of oil hourly from 2,920-30 feet. White Eagle and others' No. 1 Faulkner was drilled to a total depth of 2,810 feet, had an oil show at 2,735 feet, topped the pay at 2,810 feet and had an initial production of 960 bbls. Wilcox-Pampa Oil Co.'s No. 32 Worley-Reynolds had an initial production of 265 bbls. at 2,905-30 feet and was drilled to a total depth of 2,937 feet. Gulf Production Co.'s No. 2-A Worley was drilled to a total depth of 2,955 feet, topped the pay at 2,881 feet and had an initial production of 190 bbls.

Carson County

Empire Gas & Fuel Co.'s No. 1 Fuqua, located 330 feet north and west of SE cor. NW, Section 17, Block 3, A.B.&M. R.R. Survey, was drilled to a total depth of 2,760 feet, and made 23,500,000 feet of gas at 2,370-2,732 feet. Its No. 2 M. P. Co. fee-Lane, located in Section 62, Block 4, I.&G.N.R.R. Survey, was drilled to a total depth of 2,555 feet and made

(Continued on Page 72)

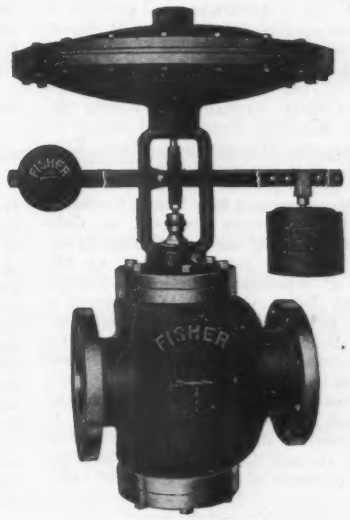
ON and AFTER NOVEMBER 1st

HANLON-WATERS, Inc.

will represent:

VICTAULIC COMPANY OF AMERICA

"Leak-proof" has become a trade name for Victaulic Couplings since their introduction to the Oil Industry a few short years ago. Today Victaulic Couplings "For every joint in every line", are connecting hundreds of miles of oil, gas, gasoline, water, air and sewage lines throughout the country. Victaulic Couplings, pipe cutters and grooving tools are carried in stock at all times.



FISHER GOVERNOR COMPANY

Almost since the inception of the Oil Industry itself, Fisher Specialties have been serving the producer and refiner with unfailing accuracy and dependability. A complete stock of Fisher regulators and control equipment is carried at our Tulsa warehouse for immediate delivery to Mid-Continent oil field points.

REED AIR FILTER COMPANY

Reed Air Filters represent the practical solution of the bad air problems to be found everywhere in plant and field operations. A Reed Air Filter on every engine and compressor returns its initial cost many times in higher efficiency and lower maintenance. All types for every filtering purpose are available for immediate shipment.

The new Hanlon-Waters oil and gas separator—a departure from the conventional type of separator, will be announced within the near future.

HANLON-WATERS, Inc.

General Offices: TULSA, OKLA.
P. O. Box: 1404. *Telephone:* 5-1138 L. D. 398

Pipe Line Construction News

ASK FOR CERTIFICATES ON CALIFORNIA LINES

LOS ANGELES, Calif., Oct. 12.—Coast Counties Gas & Electric Co. has applied to the Railroad Commission for a certificate to construct and operate a natural gas transmission line from the gas and oil fields in Fresno and Kings Counties, to Crockett, Contra Costa County, for the purpose of bringing natural gas to its northern division, located in Contra Costa County. It is also proposed to construct a branch line from the proposed main transmission line from a point near Volta, Merced County, westerly to Watsonville, Santa Cruz County, a distance of 54 miles. The main transmission line which will be from 18 to 20 inches in diameter will be approximately 205 miles in length, and the branch line, varying from 8 to 10 inches in diameter, will be approximately 54 miles long. Applicant sets forth that it has obtained from Dudley Ridge Oil Co., Ltd., an irrevocable option for natural gas supply ample for its needs for a period of 15 years in the following quantities; 25,000,000 feet per day for the first five years; 35,000,000 feet per day for the next five years; 50,000,000 feet per day thereafter.

The Coast Counties company has also applied for a certificate to exercise a franchise granted by the Board of Supervisors of Monterey County to construct and operate a natural gas transmission line from the town of San Juan, San Benito County, through the northerly section of Monterey County and thence to the city of Watsonville, Santa Cruz County. It is proposed to supply straight natural gas to present consumers in Santa Cruz, Monterey and San Benito Counties.

Southern Counties Gas Co. of California has applied for a certificate to exercise franchise rights granted by the boards of supervisors of Orange County and San Diego County, to construct a natural gas transmission line from Huntington Beach in Orange County, to La Jolla in San Diego County. The proposed line will be 12¾ inches in diameter, will be approximately 80 miles in length and will cost approximately $1,200,000. It is proposed to deliver 27,000,000 feet of natural gas per day at La Jolla with an initial pressure of 400 pounds per cubic inch.

SAN DIEGO DISTRIBUTION

LOS ANGELES, Calif., Oct. 12.—San Diego Consolidated Gas & Electric Co. is installing 36,000 feet of feeder and distribution mains to El Cajon, Calif., and by the early part of October 190 homes in El Cajon will be cooking and heating with gas, according to W. F. Raber, vice president and general manager of the company.

The company has also installed a new 6-inch feeder main via Pacific Beach to La Jolla to assure that territory service. This makes two feeders to La Jolla.

Rates for gas service were reduced by the company 3 cents per 1,000 cubic feet, effective September. This decrease was made possible by a reduction in the price of fuel oil. This makes the second rate reduction since the first of the year, a 3-cent decrease having been put into effect on February 11.

PANHANDLE GAS LINES

Application has been filed with the Railroad Commission by the Public Service Corp. of Texas for authority to construct a gas pipe line from the gas fields of Wheeler and Hutchinson Counties to Magic City, Mobeetie, Miami, Canadian, Higgins, Booker, Glazier, Perryton and Spearman, Tex., and Shattuck, Gage and Fargo, Okla.

PIPE LINE FINISHED

The new 4-inch line is reported completed between the big wells in the Barnett's Creek Church area, Kentucky, and the Illinois Pipe Line Co.'s pump station and receiving tanks at Taffey, states W. F. McCray, general manager. This will help in handling the large production and release about 13 drilling rigs used for pumping for more drilling, as powers for several leases there are also about completed and ready for service. It is estimated that the production from the Barnett's Creek Church Pool will be close around 6,000 bbls. a day.

BIRMINGHAM-ATLANTA LINE

MONROE, La., Oct. 14.—The first formal statement of construction of the line from the Monroe-Richland gas fields to Birmingham and Atlanta has just been issued at Montgomery, where it is stated that to date 240 miles of pipe have been laid. Alabama cities and towns are to be supplied on or about December 31.

Total cost of the line, with compressor stations and other requisite equipment, will reach approximately $25,000,000, and the final series of contracts for pipe line construction have been awarded through Ford, Bacon and Davis to the Oklahoma Contracting Co., Williams Brothers, Sheehan Pipe Line Construction Co. and Hope Engineering Co.

It is expected to have the line in full operation by the end of the year.

SAN ANTONIO GAS LINES

SAN ANTONIO, Tex., Oct. 12.—Houston Gulf Gas Co., subsidiary of United Gas Co., has completed 15 miles of gas line from the Agua Dulce Field in Nueces County to Orange Grove, in Jim Wells County, where it connects with the Magnolia Gas Co. line from the Mirando district to San Antonio. The six wells in the Agua Dulce Field are being connected up and a minimum of 35,000,000 feet will be taken daily to supply Houston Gulf Gas and Magnolia Gas customers. The Magnolia Gas Co. line was completed two weeks ago and is delivering gas at San Antonio. The first runs from the field are expected to be made on or about October 1.

WEST TEXAS PROJECTS

A gathering line may be run from the Humble Oil & Refining Co.'s well in Ector County to the Humble Pipe Line Co.'s two 8-inch lines from Winkler County to McCamey, about 14 miles south of the well.

The Shell Pipe Line Co. may run a gathering line from the Taylor County Pool opener to connect with the line from McCamey to Healdton.

The Atlantic Pipe Line Co. is laying a 6-mile 6-inch screw gathering line from its pumping station near the Shipley Pool to the Penn and Atlantic Oil Producing Co.'s No. 1 Pecos Mercantile Co. (Bennett) in Section 16, to the northwest. The company's 4-inch line to Pyote is now taking production from the Shipley Pool.

TANK CONSTRUCTION

HOUSTON, Tex., Oct. 14.—Gulf Pipe Line Co. has started construction of ten 80,000-bbl. storage tanks at its Lucas tank farm south of Beaumont, Tex. The company recently purchased a tract of 308 acres immediately adjoining its farm and the Humphreys Survey. The new tanks will make a total of 77 at the farm. Lucas is the Coastal end of the Gulf Pipe Line system.

STEEL IS CONTINUING ITS SEASONAL TREND

By B. E. V. Luty

PITTSBURGH, Pa., Oct. 14.—Demand for standard pipe is running fairly heavy, as a seasonal matter, this being the time when much building and repair work is completed. Such demand may run well into November, as jobbers carry very light stocks, but it always tapers off sharply for the closing weeks of the year. In the year to date demand for standard pipe has run almost exactly even with that of last year, some producers being just a little ahead, others just a little behind.

Demand for oil country goods stays light but is if anything heavier than one might expect considering the overproduction of oil. There is some drilling of gas wells right along, particularly in connection with new gas pipe lines being completed.

There is no line pipe business of any size in immediate prospect. By the end of next month it is thought the two projects to pipe gas from Texas to Chicago will have combined forces, whereby the line may be laid next year. Line pipe orders booked last month by the A. O. Smith Corp. included 348 miles, 55,000 tons, for the Pacific Gas & Electric Co., 14,000 tons for another California line, 20-inch, and 106 miles of 16-inch, 15,000 tons, for public utilities operating in Nebraska and Oklahoma, making 84,000 tons booked in the month.

Pipe mills are operating at 65 to 75 per cent, according to the method of figuring, which involves a question of how much old capacity should be counted out as altogether unlikely ever to operate again. Seamless tube mills are doing 65 to 70 per cent.

The steel industry as a whole continues to slip in the matter of activity, but at a slow rate, and there is also a little slipping here and there in the matter of prices, but no outright declines of importance.

Production of Bessemer and open-hearth steel ingots in September is reported at 4,510,879 tons. May was the peak month and each month since then has shown a decrease, while this month is running somewhat under September. The total decrease from May is around 15 per cent. A year ago production was increasing and this month will in all probability be under last October, which breaks the charm, as for 18 consecutive months steel production was above that of one year previous. Furthermore, it is normal for production to taper off, seasonally, during November and December, it being equally according to precedent for production to begin increasing again immediately after January 1.

Steel production usually reaches a low point in July and then increases month by month through October. This year the trend has been in the other direction, but certain allowances must be made. There was a special bulge in steel demand beginning about the middle of last year and putting production far above its regular trend line, while this held out so well that there was not the usual decrease in production from March or April to the fore part of July. This special bulge in demand has now come off, but at long range the present activity in steel is fully up to the average.

Automobile production in September, 417,000, according to the preliminary statement, represented a sharp drop from August and a still sharper drop from the phenomenally heavy rate in the first half of the year. Light production is to be expected for the remainder of the year. The special bulge in automobile demand is now over.

Black sheets, recently referred to as in easier position, are now quotable at 2.75 to 2.85 cents against 2.85 flat previously quoted, while galvanized sheets, formerly at 3.50 to 3.60 cents, may now be quoted at 2.50 cents flat and not firm at that. Automobile sheets are easier, at 4 to 4.10 cents. Blue annealed sheets are quite steady, except for narrow sheets which has competition by the strip mills.

TEXAS EMPIRE LINE READY IN NOVEMBER

The large oil pipe line being constructed by the Texas-Empire companies from Cushing, Okla., to East Chicago, Ind., is approximately 80 per cent complete and the entire project will be in service before November 1. The line will be 666 miles long. Work for the past two months has progressed very rapidly, there being approximately 2,500 men on the job working in from 15 to 18 gangs under four different contractors. A large portion of the line has already been laid and the major river crossings are in, the construction of the nine pumping stations being under way. It was necessary to cross the Missouri, Mississippi and Illinois Rivers. In crossing the Missouri and Mississippi Rivers the pipe was loaded on barges where wells were made and the pipe lowered as the barges moved by stages across the stream. At the Illinois River the pipe was welded in three sections on the banks and then pushed across, a barge carrying one end of the pipe which was pushed forward by a winch on shore.

The pipe used in the river crossings was 25 pounds per foot heavier than that on land. All joints are welded and strapped with 2 by 10-inch straps about five-sixteenths of an inch thick around which river clamps weighing 1,600 pounds are placed. The lines were laid on the river bed with the curve upstream and lowered to government specifications below the stream by pumping the sand from beneath the pipe. An auxiliary line of equal capacity was laid across each stream.

HOUSTON CO. GAS LINE

HOUSTON, Tex., Oct. 14.—Houston Pipe Line Co. has selected right of way and will start laying pipe shortly on a 12¾-inch gas line extending from Boling to Long Point, Tex., a distance of 13 miles.

The new line will supply the Texas Gulf Sulphur Co.'s new plant to be built at Long Point following recent purchase of the sulphur rights from the Gulf Production Co. The Houston Pipe Line Co. has been serving the Sulphur company's plant at Boling through a line laid the early part of the year connecting with its Southwest Texas-Houston trunk line.

LITTLETON-FORT COLLINS LINE

The natural gas line being constructed by the Colorado-Wyoming Gas Co., subsidiary of the Public Service Co. of Colorado, from Littleton, near Denver, to Fort Collins, has been completed to Boulder, a distance of 35 miles, and will be blown out preliminary to turning the gas into the mains. The line, which will be 65 miles long, consists of 10-inch pipe from Littleton to Boulder, and will be of 8-inch size from there to Fort Collins. At Fort Collins it will tie in with the line to Cheyenne. The gas is purchased from the Colorado Interstate Gas Co. and comes from the Amarillo Field in Texas.

BITURINE COATINGS

Biturine Enamel . *Biturine Solution No. 5*
Biturine Enamel Primer *Biturine 70-30*
Biturine Coupling Mixture

This group of protective coatings represents the fruits of more than 20 years of careful research and practical experience. Biturine Enamel and Primer are particularly adapted to the Hill, Hubbell & Company process of mechanically applying protective coating to the pipe at the mill.

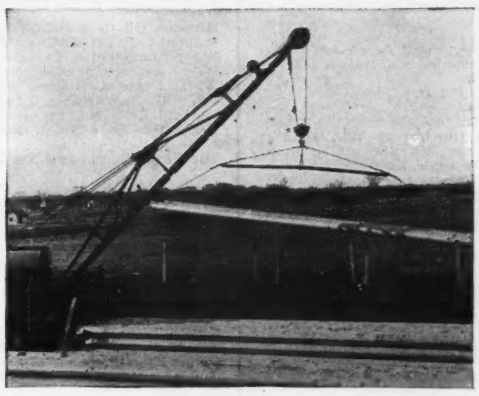
The answer to the problem of pipe line protection

Machine Coated and Machine Wrapped Pipe

One of the most serious problems confronting the oil and gas industry is the depreciation of pipe after installation through corrosion.

In the past the best solution to this problem has been the coating of pipe in the field by hand. This method, however, is always attended by the costly and variable factors of labor and unfavorable weather conditions.

But now you can, in your initial order for pipe, specify Hill, Hubbell & Co. mechanical coating and wrapping treatment, through any of the mills listed below. This treatment gives you the fullest assurance of extended pipe life under all sorts of conditions, perfected by an organization which has pioneered for 23 years in the development of protective coatings for metal.



Kraft and Felt Wrapping Adds Protection to the Coating During Shipment

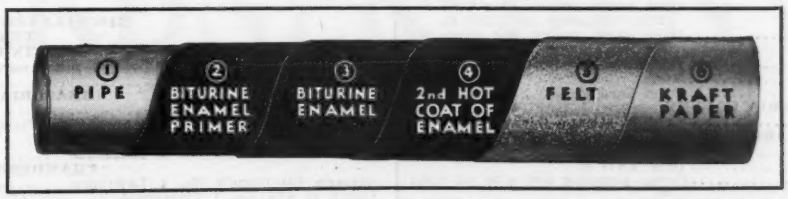
Pipe is delivered in the field, ready for weld and backfill, with uniform covering and protection. Every provision for the best possible applications of materials specified, and elimination of waste of material and labor, has been made.

Hill, Hubbell & Co. Pipe Coating and Wrapping Plants

Hill, Hubbell & Co. pipe coating and wrapping plants are located in the following cities for the production of the manufacturers of line pipe listed.

CENTRAL TUBE COMPANY, Ambridge, Pa.; SPANG-CHALFANT & COMPANY, Ambridge, Pa.; YOUNGSTOWN SHEET & TUBE COMPANY, Indiana Harbor, Ind.; NATIONAL TUBE COMPANY, Lorain, Ohio; A. O. SMITH CORPORATION, Milwaukee, Wisc.; YOUNGSTOWN SHEET & TUBE COMPANY, Youngstown, Ohio.

GENERAL PAINT CORPORATION
HILL, HUBBELL & COMPANY DIVISION
CHICAGO NEW YORK TULSA HOUSTON SAN FRANCISCO OAKLAND
LOS ANGELES PORTLAND SEATTLE SPOKANE



Hill, Hubbell & Company Machine Coated and Wrapped Pipe is Your Best Insurance Against Corrosion

GULF COAST FIELDS AND WILDCATS

(Continued from Page 49)

Humble & Valley's No. 5 Urban ..... Sandy shale 1,565 ft.
Humble & Valley's No. 6 Urban ..... Rig.
Humble & Valley's No. 4 Saunders ..... Drlg. hard sand 3,466 ft.
Humble & Valley's No. 4 Mueller ..... Pulling tubing 3,160 ft.
Humble & Valley's No. 5 Mueller ..... Cem. setting 3,155 ft.
Humble & Valley's No. 6 Mueller ..... Derrick.
Humble & Valley's No. 2 Helmuth ..... Pulling tubing 3,248 ft.
Humble & Valley's No. 1 Diemer ..... Drlg. sandy shale 3,127 ft.
Humble & Valley's No. 3-A Bracey ..... Comp. flowing 400 bbls. 3,481 ft.
Humble & Valley's No. 4-A Bracey ..... Derrick.
Humble & Valley's No. 2 J. W. Wilson ..... To pump 3,158 ft.
Humble & Valley's No. 2 Ollie Wilson ..... Derrick.
Humble & Valley's No. 1 McCalfland ..... Drlg. shale 1,350 ft.
Humble & Valley's No. 5 Gotosky ..... Rig.
Humble & Valley's No. 6 Gotosky ..... Derrick.

DE WALT—FORT BEND COUNTY

Humble Oil & Refg. Co.'s No. 8 Brazos ..... Drlg. 1,245 ft.
Humble Oil & Refg. Co.'s No. 8 Camp ..... Cem. setting 3,448 ft.
Humble Oil & Refg. Co.'s No. 1 Hagenson ..... Fishing swab 3,811 ft.
Humble Oil & Refg. Co.'s No. 3 Deatherage ..... Cem. setting 3,686 ft.
Humble Oil & Refg. Co.'s No. 12 Sugarland ..... Sticky shale 3,543 ft.
Humble Oil & Refg. Co.'s No. 13 Sugarland ..... Derrick.
Humble Oil & Refg. Co.'s No. 6 Nelson ..... Drlg. sandy shale 3,490 ft.
Humble Oil & Refg. Co.'s No. 1 Peterson ..... Drlg. sandy shale 2,294 ft.
Humble Oil & Refg. Co.'s No. 1-B Sugarland ..... Drlg. 250 ft.
Humble Oil & Refg. Co.'s No. 1-C Bankers Mortgage..... Drlg. rock 1,147 ft.

HUMBLE—HARRIS COUNTY

Continental Oil Co.'s No. 1 Wagner ..... To pump 4,932 ft.
Continental Oil Co.'s No. 1 Cezeaux, south side ..... To pump 4,520 ft.
Humble Oil & Refg. Co.'s No. 4 Williams ..... Comp. flowing 240 bbls. pipe line oil 4,348 ft.
Humble Oil & Ref. Co.'s No. 5 Williams ..... Setting casing 5,058 ft.
Humble Oil & Refg. Co.'s No. 6 Williams ..... Location.
Humble Oil & Refg. Co.'s No. 1 Glass, south ..... Drlg. packed sand and boulders 5,956 ft.
Humble Oil & Refg. Co.'s No. 1 Oates ..... Drlg. shale 3,445 ft.
Humble Oil & Refg. Co.'s No. 1 Trahon ..... Derrick.
Navarro Oil Co.'s No. 1 La. Oil Refg. Corp. ..... Drlg. shale 5,275 ft.
Harvey Smith et al's No. 1 Rosenthall, north side .... Comp. pumping 100 bbls. oil 4,205 ft.
Harvey Smith et al's No. 2 Ward ..... Spudded.
South Texas Petroleum Co.'s No. 11 Morris, south side .. Drill stem stuck 5,326 ft.
South Texas Petroleum Co.'s No. 1 Lee, south flank .. Pulling screen to deepen 4,248 ft.
Sun Oil Co.'s No. 47 River, north side ..... Aband. in salt 6,067 ft.
The Texas Company's No. 265 Landslide, south ..... To pump 5,443 ft.
The Texas Company's No. 266 Landslide ..... Comp. flowing 40 bbls. oil 4,960 ft.
The Texas Company's No. 267 Landslide, south ..... Comp. flowing 73 bbls. 5,356 ft.
The Texas Company's No. 268 Landslide, south ..... Comp. flowing 1,000 bbls. 5,337 ft.; dropped to 170 bbls.
The Texas Company's No. 269 Landslide, south ..... Set 36 ft. screen 5,181 ft.; total depth 5,210 ft.; flowed initially 4,700 bbls. oil; increased to 7,000 bbls.
The Texas Company's No. 1 Dunman ..... Cement setting 4,050 ft.
The Texas Company's No. 23 House ..... Trying to shut off water 4,174 ft.

BLUE RIDGE—FORT BEND COUNTY

Gulf Production Co.'s No. 17 Luscher ..... Drlg. gumbo and lime 3,481 ft.
So. Texas Petroleum Co.'s No. 5 Blakely ..... Rig.

PIERCE JUNCTION—HARRIS COUNTY

Anderson & Plummer's No. 6 Whitehead (workover) .... Rig.
Navarro Oil Co.'s No. 2-A Cain (workover) ..... Rigging up to deepen.
Navarro Oil Co.'s No. 4-B Cain ..... Set strainer to test 6,240 ft.
Navarro Oil Co.-Texas Exploration Co.'s No. 17 Dooley... Drlg. gumbo 3,902 ft.
Navarro Oil Co.-Humble's No. 5 Dooley ..... Location.
Rio Bravo Oil Co.'s No. 11 B. Settegast ..... Drlg. shale and lime 4,245 ft.
Rio Bravo Oil Co.'s No. 7-A Settegast (workover) ..... Comp. pumping 100 bbls. oil 4,300 ft.
Rio Bravo Oil Co.'s No. 14-A Settegast, west ..... Comp. flowing 300 bbls. oil 5,070 ft.
Rio Bravo Oil Co.'s No. 16-A Settegast, west ..... Rig.
Saxet Gas Co.'s No. 2 Herman estate, southwest ..... Standing; total depth 5,000 ft.
Saxet Gas Co.'s No. 4 Herman (southwest) ..... Drlg. gumbo and lime 4,546 ft.
Saxet Gas Co.'s No. 5 Herman (southwest) ..... Derrick.
Superior Oil Corp.'s No. 5-B Settegast (workover) .... Drlg. 4,652 ft.
J. F. Barron's No. 3 Fitzsimmons ..... Derrick.
Shaw & Texas Exploration Co.'s No. 2-F Fitzsimmons .. Derrick.
T. G. Shaw's No. 1 Dooley ..... Comp. flowing 20 bbls. fluid, 90 per cent b.s. and water, hourly sandy shale 5,906 ft.; stopped.

LIBERTY—LIBERTY COUNTY

Abercrombie & Harrison's No. 4 fee (workover) ..... To deepen.
Empire Gas & Fuel Co.'s No. 4 Groggan ..... Tested salt water and aband.; sand 3,395-3,495 ft.
Empire Gas & Fuel Co.'s No. 6 Groggan ..... Comp. flowing 500 bbls. oil 3,475 ft.
Empire Gas & Fuel Co.'s No. 7 Groggan ..... Drlg. gumbo 2,175 ft.
Empire Gas & Fuel Co.'s No. 5 Groggan ..... Rig.
Navarro Oil Co.'s No. 5 Baldwin ..... Rigging up.
Navarro Oil Co.'s No. 3 Community ..... Drlg. 3,436 ft.
Sun Oil Co.'s No. 50 Mitchell ..... Coring 3,527 ft.
Sun Oil Co.'s No. 51 Mitchell ..... Drlg. gumbo 3,172 ft.
Yount Lee Oil Co.'s No. 18 Mitchell ..... Drlg. sandy shale 3,121 ft.

HULL—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 27 Barngrover, old well . 3,580 ft.; to deepen.
W. B. Flynn's No. 8 Harrison (workover) ..... Pulling liner.
Gulf Production Co.'s No. 45 Phoenix (workover) .... Comp. flowing 600 bbls. oil 3,330 ft.
Gulf Production Co.'s No. 52 Phoenix, (workover) ..... Comp. flowing 800 bbls. oil 4,100 ft.
Houston Production Co.'s No. 13 Barngrover ..... Comp. flowing 1,150 bbls. oil 3,822 ft.
Humble Oil & Refg. Co.'s No. 12 Hooks-Spell ..... Rig.
Republic Production Co.'s No. 35 Dolbear (workover) .. Total depth 4,210 ft.
Republic Production Co.'s No. 76 Dolbear (workover) .... Drlg. 400 ft.
Republic Production Co.'s No. 99 Dolbear (workover) .... Comp. flowing 1,000 bbls. oil 2,383 ft.
Republic Production Co.'s No. 119 Dolbear ..... Drlg. 2,680 ft.
Sun Oil Co.'s No. 12 Carr ..... Drlg. 600 ft.
The Texas Company's No. 8 Hannah-Vacuum ..... Location.

BIG CREEK—FORT BEND COUNTY

Benedum & Trees' No. 1 J. F. Ahlers ..... Location.
Benedum & Trees' No. 1 Moore ..... Drlg. sand and shale 3,256 ft.
Gulf Production Co.'s No. 35 Davis, (workover) ..... Drlg. 3,590 ft.
Gulf Production Co.'s No. 56 Davis ..... Drlg. gumbo 3,681 ft.
The Texas Company's No. 8 Wheat (old well) ..... Pulling liner to deepen 3,900 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 1 Mayes ..... To set casing to test sand and shale showing oil 2,839 ft.
Pure Oil Co.'s No. 4 Mayes ..... Drlg. broken lime 941 ft.
Pure Oil Co.'s No. 5 Mayes ..... Drlg. broken sandy lime 1,265 ft.; 12½-in. casing set 1,230 ft.
Pure Oil Co.'s No. 6 Mayes ..... Drlg. sand, gravel and shale 961 ft.
Pure Oil Co.'s No. 7 Mayes ..... Rig.
Pure Oil Co.'s No. 8 Mayes ..... Rig.
Pure Oil Co.'s No. 3 Lost Lake ..... Drlg. hard broken lime 2,522 ft.

NASH—BRAZORIA COUNTY

Rycade Oil Corp.'s No. 26 Wisdom ..... Drlg. hard sand and lime 5,122 ft.

SOUR LAKE—HARDIN COUNTY

Austin et al's No. 1 Watson ..... Rig.
Lake View Oil Co.'s No. 7 Miniolo ..... Drlg. 1,649 ft.
United Oil & Fuel Co.'s No. 1 Brown ..... Comp. pumping 200 bbls. oil 1,992 ft.

ORANGE—ORANGE COUNTY

Brownie Babbett Oil Co.'s No. 8 McLean (workover) .... To deepen.
Sinclair Oil & Gas Co.'s No. 5 Gailliere (workover) .... Comp. pumping 100 bbls. fluid, 90 per cent b.s. and water, 3,506 ft.

GOOSE CREEK—HARRIS COUNTY

Cedar Bayou Oil Co.'s No. 11 Busch ..... Shut down 1,750 ft.
Russell Ferrell's No. 4 Gillette (workover) ..... Rigging.
Humble Oil & Refg. Co.'s No. 76 Simms-Smith ..... Drlg. sand and boulders 1,325 ft.
Lake Shore Oil Co.'s No. 4 Duke ..... Tested salt water 2,475 ft.; to deepen.
Jim McMurry's No. 3 Grace Addey (old well) ..... To pump 2,779 ft.
Lube Well Oil Co.'s No. 1 Dannenbaum, (old well) .... Tested salt water 1,607 ft.; shut down.

SPINDLETOP—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 72 McFaddin (workover) ..... Testing sand and shale 4,829 ft.
Yount Lee Oil Co.'s No. 74 McFaddin (workover) ..... Fishing.
Yount Lee Oil Co.'s No. 85 McFaddin (workover) ..... Drlg. sand 4,401 ft.
Yount Lee Oil Co.'s No. 113 McFaddin ..... Comp. flowing 1,500 bbls. oil 4,000 ft.
Yount Lee Oil Co.'s No. 116 McFaddin ..... Drlg. sand 4,199 ft.
Yount Lee Oil Co.'s No. 117 McFaddin ..... Drlg. sand 3,781 ft.
Yount Lee Oil Co.'s No. 118 McFaddin ..... Drlg. gumbo 2,970 ft.
Yount Lee Oil Co.'s No. 57 Gladys City (workover) .... Drlg. shale and lime 3,893 ft.
Yount Lee Oil Co.'s No. 84 Gladys City, (workover) .... Drlg. sand 3,641 ft.
Yount Lee Oil Co.'s No. 95 Gladys City, (old well) ..... Milling; total depth 5,873 ft.
Yount Lee Oil Co.'s No. 96 Gladys City ..... Drlg. gumbo 4,937 ft.
Yount Oil Co.'s No. 97 Gladys ..... Drlg. shale 3,300 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Continental Oil Co.'s No. 1 Hogg ..... Drlg. rock 5,810 ft.
Gulf Production Co.'s No. 3-B Hogg ..... Drlg. gumbo and lime 3,007 ft.
Humble Oil & Refg. Co.'s No. 3 Smith ..... Drlg. shale 4,687 ft.
Saxet Oil Co.'s No. 1 Hogg ..... Comp. pumping 400 bbls., 10 per cent b.s. and water, 4,250 ft.

HIGH ISLAND—GALVESTON COUNTY

Gulf Production Co.'s No. 5-A Smith ..... Rig.
Marrs McLean's No. 6 Cade (old well) ..... To pump.
Marrs McLean's No. 6 Cade (workover) ..... Drlg. 3,346 ft.
Marrs McLean's No. 16 Cade ..... Drlg. 3,661 ft.

ORCHARD—FORT BEND COUNTY

Gulf Production Co.'s No. 19 Moore ..... Drlg. sticky shale 5,932 ft.

NORTH DAYTON—LIBERTY COUNTY

Fort Bend Oil Co.'s No. 1 Ballarack ..... Aband. 4,637 ft.

REFUGIO—REFUGIO COUNTY

Benedum & Trees' No. 3 Rooke ..... Reaming 3,695 ft.
Morgan Oil Corp.'s No. 1 Fox heirs ..... Sand showing oil 3,641-43 ft.; set 6⅝-in. casing 3,641 ft.
Hewitt et al's No. 1 Cemetery ..... Cem. 12½-in. surface casing 446 ft.
Houston Gulf Gas Co.'s No. 6 Shelly ..... Drlg. gumbo 5,629 ft.
Houston Gulf Gas Co.'s No. 8 Shelly ..... Shut down for repairs; bottom of hole 980 ft.
Houston Gulf Gas Co.'s No. 5 O'Brien ..... Drlg. plug 3,662 ft.
Houston Gulf Gas Co.'s No. 4 Fannie Heard (workover) .. Drlg. gumbo 3,393 ft.
Houston Gulf Gas Co.'s No. 8 Fannie Heard ..... Drlg. sandy shale 2,769 ft.
Korona Oil Co.'s No. 2 Reilly ..... Comp. flowing 132 bbls. pipe line oil 3,667-75 ft.
Korona Oil Co.'s No. 3 Reilly ..... Drlg. gumbo 3,600 ft.
Mission Drlg. Co.'s No. 1 J. F. B. Heard ..... Testing gas sand 3,645 ft.
Mission Drlg. Co.'s No. 2 Skelly ..... Drlg. shale 3,441 ft.
Mission Drlg. Co.'s No. 3 Skelly ..... Cem. surface casing 480 ft.
Mission Drlg. Co.'s No. 1 Fox (workover) ..... Cored gas sand 3,661 ft.
Mission Drlg. Co.'s No. 1 Kuykendall ..... Cem. surface casing 530 ft.
Mission Drlg. Co.'s No. 2 Mitchell ..... Drlg. sand 2,713 ft.
Oigufer Oil Co.'s No. 3 Ryalls ..... Rig.
Saxet Oil Co.'s No. 1 Serafine ..... Rig.
Saxet Oil Co.'s No. 10 Clint Heard ..... Comp. flowing 350 bbls. pipe line oil 3,674-82 ft.
Saxet Oil Co.'s No. 1 Fox heirs ..... Comp. flowing 600 bbls. 3,665-74 ft.
Saxet Oil Co.'s No. 1 Powers ..... Cem. 6⅝-in. casing; to test oil sand 3,688-94 ft.
Houston Oil Co.'s No. 8 Wilson Heard ..... Comp. flowing 500 bbls. fluid, 2 per cent water, 3,695 ft.
Houston Oil Co.'s No. 10 Pratt-Hewitt-Rooke ..... Drlg. salt 3,015 ft.
Houston Oil Co.'s No. 2 F. Rooke ..... Drlg. rock 3,519 ft.
Houston Oil Co.'s No. 13 F. B. Rooke ..... Drlg. rock 3,495 ft.
Independent Oil & Gas Co.'s No. 1 O'Brien ..... Cem. 9⅝-in. casing 4,421 ft.
Independent Oil & Gas Co.'s No. 1 Claude Heard ..... Rig.
W. L. Pearson, trustee, No. 2 Fox ..... Derrick.
W. L. Pearson, trustee, No. 1 Swift ..... Spudded.
Sun Oil Co.'s No. 1 Leisering ..... Drlg. 2,175 ft.
Sun Oil Co.'s No. 2 Leisering ..... Drlg. surface formations.
Texas Gas Co.'s No. 1 Rogers ..... Killed 1,400 lbs. gas pressure 3,686 ft.; to deepen.
The Texas Company's No. 1 Clint Heard ..... Rig.

SOUTH LOUISIANA FIELDS

LOCKPORT—CALCASIEU PARISH

Shell Petroleum Corp.'s No. 1 Miller ..... Aband. 7,201 ft.
Vacuum & Gulf's No. 3 State ..... Drlg. shale 5,039 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 4 Lemke ..... Drlg. gumbo 1,743 ft.
Calcasieu Oil Co.'s No. 4 Caldwell ..... Rig.
Rycade Oil Corp. and Humble's No. 2 Gulf Land (workover) ..... To deepen.
Rycade Oil Corp.-Humble Oil & Refg. Co.'s No. 4 Gulf Land ..... Rigging.
Sunshine Oil Co.'s No. 4 Ellender ..... Drlg. gumbo and lime 2,489 ft.
Sunshine Oil Co.'s No. 5 Ellender ..... Drlg. gravel 600 ft.
Yount Lee Oil Co.'s No. 9 School Land (Old Hackberry).. Abandoned 5,780 ft.
Yount Lee Oil Co.'s No. 1 Carter & Sweeney ..... Comp. flowing 1,000 bbls. oil 3,244 ft.
Yount Lee Oil Co.'s No. 1 Lacey ..... Comp. flowing 200 bbls.

JENNINGS—ACADIA PARISH

The Texas Company's No. 5 Rayne heirs (King tract).... Drlg. 3,900 ft.
Yount Lee Oil Co.'s No. 4 Crowley, northeast flank, Section 48-9s-2w ..... Drlg. 7,950 ft.
Yount Lee Oil Co.'s No. 5 Crowley, Sec. 48-9s-3w ..... Location.
Yount Lee Oil Co.'s No. 7 Houssiere-Latrielle, Sec. 47-9s-2w ..... Drlg. 6,846 ft.
Yount Lee Oil Co.'s No. 1 E. F. Simms (northwest side).. Rigging up.

EDGERLY—CALCASIEU PARISH

C. M. Crotty's No. 15 Lillard ..... Drlg. 1,869 ft.
Green Oil Co.'s No. 2 Moore (workover) ..... To deepen.

VINTON—CALCASIEU PARISH

Gulf Refining Co.'s No. 1 J. W. Gardner ..... Drlg. 2,717 ft.
Gulf Refining Co.'s No. 48 Star Vincent, Sec. 34-10s-12w.. Aband. 3,550 ft.; drill stem stuck.
Vinton Petroleum Co.'s No. 4 Matilda Gray (workover).. Drlg. 2,786 ft.
Marrs McLean's No. 4 Gray (workover) ..... Drlg. 1,789 ft.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 7 Bouillion fee ..... Drlg. hard sandy lime and shale 4,514 ft.
Rycade Oil Corp.'s No. 3 State (former well) ..... Drlg. hard sandy shale 3,637 ft.

STARKS—CALCASIEU PARISH

Gulf Refining Co.'s No. 11 Lutcher-Moore (workover) .. Working over.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 7 Yount Lee ..... Standing cem. 6,881 ft.
Pure Oil Co.'s No. 9 Yount Lee ..... Location.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

Whittington et al's No. 1 Lass, 4 miles northwest of Bellville ..... Drlg. shale 2,546 ft.

BRAZORIA COUNTY

Faust et al's No. 5 Faust ..... Drlg. brown gumbo 1,954 ft.
Shell Petroleum Corp.'s No. 1 Blakely-Winston, Danbury ..... Rig.
Steel & Strickland's No. 1 Lockridge ..... No report.

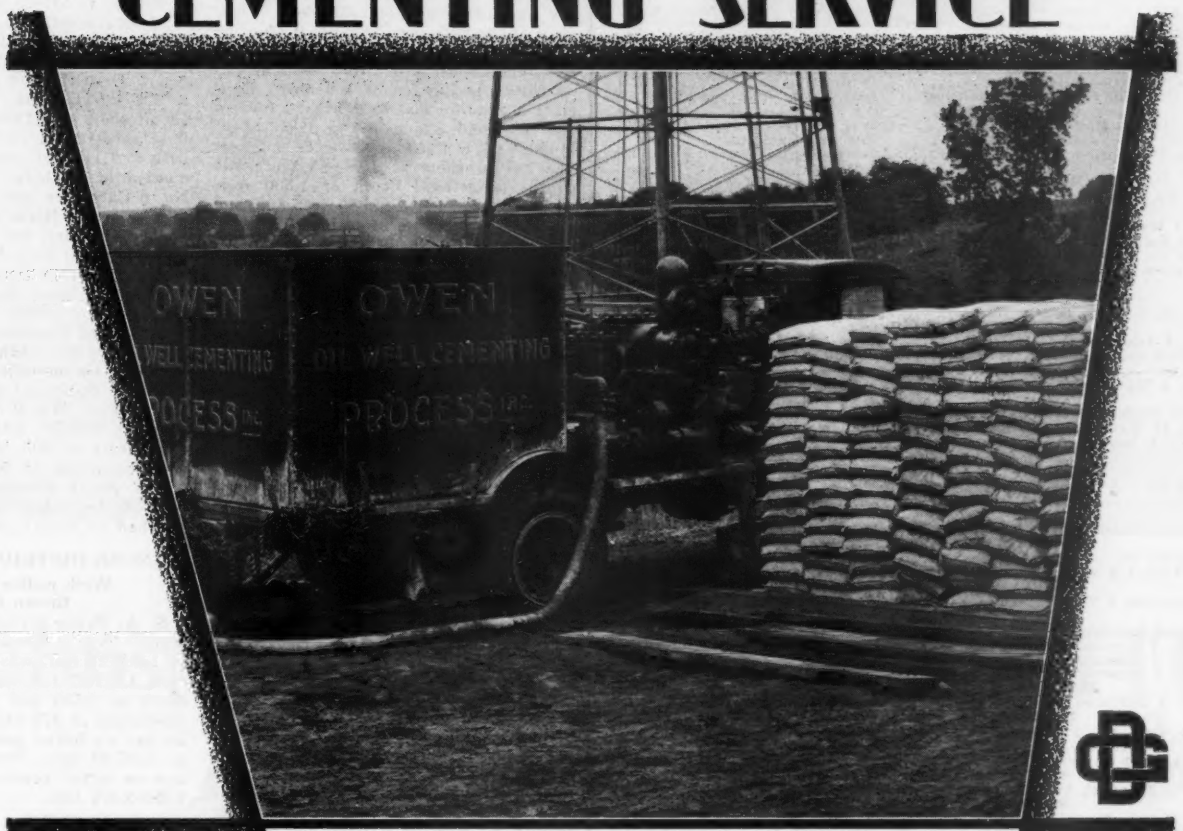
CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence ..... Shut down in gumbo 1,200 ft.
Layne et al's No. 1 Fitzgerald ..... Aband. 2,635 ft.

FORT BEND COUNTY

Gulf Production Co.'s No. 12 Trone, Long Point ..... Drlg. sticky shale 5,357 ft.

DEPENDABLE PUMPS FOR CEMENTING SERVICE



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The Republic Supply Co. of California - Stores in All Principal California Oil Fields
The Continental Supply Co. - - Stores in All Principal Mid-Continent Oil Fields

GARDNER-DENVER

Grayburg Oil Co.'s No. 1 Ranson	Aband. 4,313 ft.
HARRIS COUNTY	
Baldwin and associates' No. 1 Kitzman, Cypress	Standing 4,055 ft.
Gulf Crest oil Co.'s No. 1 Gulf Crest	Drill stem test dry in sand and shale 2,622 ft.
A. F. Belunek's No. 1 Thompson	Rig.
Hammond et al's No. 1 Brodt	No report.
Humble Oil & Refg. Co'.s No. 6 Warren Hockley	Reaming 4,244 ft.
Humble Oil & Refg. Co.'s No. 1 Sidious Maykawa	Showing gas 2,280 ft.
Humble Oil & Refg. Co.'s No. 2 Woodburn	Derrick.
Rich et al's No. 1 Highlands	Derrick.
Watts Brothers' No. 1 Hubert, Mykawa	Rig.
York & Robertson's No. 1 Garrett, Harris & Carpenter Sur.	Sandy shale 1,917 ft.; shut down.
JEFFERSON COUNTY	
Deep Test Oil Corp.'s No. 1 Faith-McFadden	Shut down.
Gulf Production Co.'s No. 3 Burrell Fannette	Coring 5,489 ft.
Gulf Production Co.'s No. 1 Junker, Fannette	Coring 4,080 ft.
Gulf Production Co.'s No. 12 Thomas, Fannette	Drill stem test showed oil 4,200 ft.; cem. casing.
River Oil Corp.'s No. 1 Ship Channel, Brown Survey	Standing.
Shell Petroleum Corp.'s No. 1 Heisig, Hampshire	Drlg. shale 7,301 ft.
The Texas Company's No. 2 Pipkin, Big Hill	Drlg. sand and shale 4,787 ft.
The Texas Company's No. 1 Fitzhugh, Big Hill	Drlg. rock 2,963 ft.
The Texas Company's No. 1 Burrell, Fannette	Drlg. sandy shale 5,150 ft.
Vacuum Oil Co.'s No. 1 Herbert-Broussard, T.&N.O. Sur. No. 208.	Drlg. shale 5,197 ft.
LIBERTY COUNTY	
Gulf Production Co.'s No. 1 Weiser	Drlg. 2,708 ft.
Gulf Production Co.'s No. 3 Boyt, Hankamer	Drilling.
Humble Oil & Refg. Co.'s No. 6 Sterling, Moss Bluff	Drlg. sandy lime and shale 3,663 ft.
Pure Oil Co.'s No. 1 Liberty, Moss Bluff	Drlg. gumbo and shale 5,723 ft.
Cranfill Reynolds Co.'s No. 1 Vajdak, Sheeks	Reaming 3,941 ft.
Cranfill Reynolds No. 3-A Esperson, Sheeks	Set casing to test oil sand 3,300 ft.
MONTGOMERY COUNTY	
Kelley-Baker et al's No. 1 Juerges	Drlg. gumbo 3,065 ft.
ORANGE COUNTY	
Galperin et al's No. 1 Mansfield	Rigging up.
Gulf Production Co.'s No. 1 J. H. Starks, Port Neches	Drlg. 2,467 ft.
Gulf Production Co.'s No. 1 M. H. Starks, Port Neches	Started drilling.
The Texas Company's No. 1 Polk, Port Neches	Drlg. gumbo 1,197 ft.
SOUTH LOUISIANA	
ASCENSION PARISH	
Triumph Oil Corp.'s No. 2 Lacey, Sec. 20-10s-4e	No report.
CALCASIEU PARISH	
Wilfred LaHay's No. 2 James, Sec. 14-10s-13w	Drlg. sand 3,400 ft.
J. O. Davis' No. 1 Mims, Sec. 20-9s-7w	Standing 5,600 ft.
CAMERON PARISH	
Shell Pet. Corp.'s No. 6 Watkins, Black Bayou	Making drill stem test in sand 4,802 ft.
Shell Pet. Co.'s No. 12 Watkins, Black Bayou	Drlg. sticky shale 4,896 ft.
Shell Pet. Corp.'s No. 13 Watkins, Black Bayou	Pulling screen 1,002 ft.
Shell Pet. Corp.'s No. 1 Marceaux, Mallard Bay, Sec. 32-12s-3w	Drlg. sand and streaks of shale 1,986 ft.
The Texas Company's No. 4-A Calcasieu Lake, Calcasieu Lake Dome	Drlg. sandy shale and gumbo 3,860 ft.
Yount Lee Oil Co.'s No. 1 Starks, Sec. 1-15s-15w	Drlg. gumbo 3,500 ft.
IBERIA PARISH	
Jefferson Lake Oil Co.'s No. 3 Lake Pleigneur	Location.
The Texas Company's No. 4-A Vermillion Bay	Drlg. sand and gravel 880 ft.
IBERVILLE PARISH	
Shell Petroleum Corp.'s No. 3 Wilbert, White Castle	Washing to test hard sandy shale 5,836 ft.
Standard Oil Co.'s No. 2 Schwing, Bayou Blue	Drlg. sand 3,605 ft.
Standard Oil Co.'s No. 3 Schwing, Bayou Blue	Derrick.
Standard Oil Co.'s No. 4 Schwing, Bayou Blue	Location.
Standard Oil Co.'s No. 5 Schwing, Bayou Blue	Derrick.
JEFFERSON DAVIS PARISH	
Vacuum Oil Co.'s No. 2 DeVilbiss, Roanoke	Drlg. sandy shale 5,568 ft.
PLAQUEMINE PARISH	
Humble Oil & Refg. Co.'s No. 1 Cockrell-Moran, Sec. 2-20s-26e	Drlg. 3,400 ft.
The Texas Company's No. 3 Garden Island Bay	Building derrick.
ST. LANDRY PARISH	
Gulf Refining Co.'s No. 2 Gaudet, Port Barre	Drlg. 1,412 ft.
ST. MARTIN PARISH	
Ohio Oil Co.'s No. 4 Martin, Hager Dome	Abandoned 4,490 ft.
The Texas Company's No. 1 fee, Hager Dome	Drlg. 4,900 ft.
The Texas Company's No. 2 St. Martin, Hager	Drlg. cap rock 3,128 ft.
The Texas Company's No. 3 fee, Hager	Location.
The Texas Company's No. 4 fee, Hager	Location.
The Texas Company's No. 1 Iberville, Hager	Rig.
The Texas Company's No. 2 Iberville, Hager	Location.
The Texas Company's No. 3 Iberville, Hager	Location
ST. TAMMANY PARISH	
St. Tammany Oil Co.'s No. 2 Fritchie, Sec. 35-8s-14e	Aband. 3,032 ft.
TANGIPAHOA PARISH	
Completion Oil Co.'s No. 1 Amos	2,700 ft., gumbo and shale.
Joan Development Co.'s No. 1 Hilton, Sec. 20-9s-9e	Cem. 6⅝-in. casing 3,000 ft.; standing.
TERREBONNE PARISH	
Charles Paggi's No. 1 Evergreen, Sec. 145-15s-16e	No report.
The Texas Company's No. 2-A Dog Lake Bayou, 400 ft. south of No. 1	Derrick.
The Texas Company's No. 1-B Dog Lake, Sec. 6-22s-16e	Drlg. soft white lime 1,565 ft.
The Texas Company's No. 1 Taylor, East Bay Junop Dome	Drlg. sand 4,170 ft.
The Texas Company's No. 2-B Bay Coon Road, Sec. 17-22s-18e	Gas killed; waiting orders 971 ft.
The Texas Company's No. 3-B Bay Coon Road, Sec. 17-22s-18e	Spudded.
The Texas Company's No. 3 La. L. L. & E. Co., Four Isle	Drlg. gumbo 3,050 ft.

TEXAS PANHANDLE

(Continued from Page 66)

39,000,000 feet of gas at 2,369-2,550 feet. Mid-West Exploration Co.'s No. 4 Cooper was drilled to a total depth of 3,125 feet, topped the pay at 3,080-3,113 feet, shot with 240 quarts at 3,040-3,100 feet and had an initial production of 125 bbls. Skelly Oil Co.'s No. 18 Schafer, located in Section 68, Block 4, I.&G.N. R.R. Survey, was drilled to a total depth of 3,097 feet, topped the pay at 3,077-82 feet and had an initial production of 550 bbls.

Hutchinson County

Holmes' No. 2 Moore, located in Section 125, Block 4, I.&G.N.R.R. Survey, had an initial production of 190 bbls. at 3,000-40 feet and was drilled to a total depth of 3,050 feet. Prairie Oil & Gas Co.'s No. 4 Shaw, located in Section 27, Block Y, topped the pay at 2,895-2,902 feet, was drilled to a total depth of 2,942 feet and had an initial production of 120 bbls.

Wheeler County

Anderson and others' No. 1 Cuddleback, located in Section 18, Block Z-4, H.&G.N.R.R. Survey, had an initial production of 20,000,000 feet of gas at 1,910-95 feet and was drilled to a total depth of 2,012 feet. Upham Gas Co.'s No. 4 Gooch, topped the pay at 1,427-1,502 feet and had an initial production of 28,000,000 feet of gas at 1,510 feet. Its No. 1 Shelton had an initial production of 38,000,000 feet of gas at 1,845-1,950 feet.

WICHITA DISTRICT COMPLETIONS

Week ending October 12

Archer County

Gwynne and others' No. 7 Thompson had an oil show at 1,580 feet, was drilled to a total depth of 1,591 feet and had an initial production of 16 bbls. Bridwell Oil Co.'s No. 1 McClure was dry and abandoned at 1,420 feet. Goldsmith and others' No. 1 Deitrich had an oil show at 1,152-57 feet and an initial production of 120 bbls. Grebin's No. 2 Hennig was dry and abandoned at 1,464 feet. Hi-Land Oil Co.'s No. 1 Hausler was dry and abandoned at 1,200 feet. Humble Oil & Refining Co.'s No. 8 Kunkel had an oil show at 1,126 feet, was drilled to a total depth of 1,137 feet and had an initial production of 90 bbls. Maxson, Jr.'s No. 5 Green was dry and abandoned at 1,113 feet. Silkwood and others' No. 1 Lonsley estate was dry and abandoned at 1,002 feet.

Cooke County

Benson Brothers' No. 1 Paulter was dry and abandoned at 2,002 feet. Danciger Oil & Refining Co.'s No. 9 Huggins was drilled to a total depth of 1,159 feet, was plugged back to 1,156 feet and had an initial production of 100 bbls. Danciger & Staniforth's No. 1 Field & Bowers was dry and abandoned at 1,505 feet. Humble Oil & Refining Co.'s No. 2 Poteet had an oil show at 1,360-85 feet, was drilled to a total depth of 1,500 feet, was plugged back to 1,385 feet and had an initial production of 44 bbls. Kewanee Oil & Gas Co.'s No. 7 Timmie was drilled to a total depth of 1,502 feet, topped the pay at 1,155 feet and had an initial production of 135 bbls. Shell Petroleum Corp.'s No. 5 Field & Bowers was dry and abandoned at 1,441 feet. Sinclair Oil & Gas Co.'s No. 1 Embry was dry and abandoned at 2,276 feet. The Texas Company's No. 2 Embry was dry and abandoned at 2,617 feet.

Montague County

Farlyn Oil Co.'s No. 3 Cunningham and others had an oil show at 927 feet, was drilled to a total depth of 935 feet and had an initial production of 16 bbls.

Jack County

L. C. Harper's No. 2 Ezell was drilled to a total depth of 3,153 feet, had an oil show at 3,113 feet and an initial production of 245 bbls. Prairie Oil & Gas Co.'s No. 5 Bryson was drilled to a total depth of 3,122 feet, encountered gas sand at 3,084-92 feet, had an oil show at 3,103 feet and an initial production of 86 bbls.

Wichita County

J. L. Swanner's No. 1 Parker was dry and abandoned at 1,282 feet. Arkansas Fuel Oil Co.'s No. 20 Kemp-Kempner had an oil show at 1,755-63 feet and an initial production of 252 bbls. Cunningham & Pennell's No. 5 McClure had an oil show at 957-63 feet, was drilled to a total depth of 1,113 feet and had an initial production of 25 bbls. Douglas Production Co.'s No. 11-B Douglas was dry and abandoned at 401 feet. Venmex Oil Co.'s No. 21 Waggoner Brothers had an initial production of 35 bbls. at 1,470-85½ feet. Its No. 22 Waggoner Brothers had an initial production of 50 bbls. at 1,476-89 feet.

Wilbarger County

Burton and others' No. 6 Waggoner had an oil show at 1,862-75 feet and an initial production of 60 bbls Dixie Oil Co.'s No. 1 Waggoner had an oil show at 2,360-64 feet, was drilled to a total depth of 2,439 feet, plugged back to 2,370 feet and had an initial production of 40 bbls. Easter Oil Co.'s No. 5 Waggoner had an initial production of 10 bbls. at 2,382-2,400 feet. Its No. 2 Waggoner was dry and abandoned at 1,931 feet. Empire Gas & Fuel Co.'s No. 13 Waggoner had an oil show at 1,851-81 feet, was drilled to a total depth of 1,883 feet and had an initial production of 148 bbls. Empire Gas & Fuel Co.'s No. 2 Waggoner was dry and abandoned at 2,410 feet. Grayback Development Co.'s No. 1 D. Waggoner had an initial production of 153 bbls. at 2,643-87 feet Harris and others' No. 1 Waggoner was dry and abandoned at 2,050 feet. Lawson's No. 7 Waggoner had an oil show at 1,880-88 feet and an initial production of 140 bbls. Laenthol & Dyson's No. 1 Waggoner was dry and abandoned at 2,003 feet. Phillips Petroleum Corp.'s No. 6 Waggoner had an initial production of 85 bbls. after having a 40-quart shot at 2,388-95 feet. Staley Wynne & Co.'s No. 14 Waggoner had an initial production of 140 bbls. at 2,284-2,307 feet and was drilled to a total depth of 2,317 feet.

Young County

Bowen and others' No. 1 Neeley was dry and abandoned at 1,152 feet. Bridwell Oil Co.'s No. 3 Cullers had an initial production of 10 bbls. at 568-80 feet. Chandler and others' No. 1 Cullers was dry and abandoned at 600 feet. Comac Drilling Co.'s No. 1 Hansler was dry and abandoned at 1,215 feet. Continental Oil Co.'s No. 10 Campbell was dry and abandoned at 952 feet and had an oil show at 874-89 feet. Goldsmith and others' No. 1 Hargroves was dry and abandoned at 606 feet. Holbrook & Woods' No. 4 Dean had an initial production of 3 bbls. at 610-15 feet and was drilled to a total depth of 570 feet. Harland & Carter's No. 1 Barrett was dry and abandoned at 630 feet. Madden & Hunt's No. 1 Deitrich was dry and abandoned at 1,158 feet. Their No. 1 Kunkel had an oil show at 1,129-42 feet, was drilled to a total depth of 1,164 feet, plugged back to 1,142 feet and had an initial production of 20 bbls. Parks and others' No. 6 Carpenter was dry and abandoned at 630 feet. Riggs & Williams' No. 1 Senkel was dry and abandoned at 570 feet. Sun Oil Co.'s No. 12 Deitrich had an oil show at 1,149-1,155 feet, was drilled to a total depth of 1,159½ feet and had an initial production of 135 bbls. United Production Co.'s No. 1 Kunkel was dry and abandoned at 1,201 feet. Willis & Gatewood's No. 1 Wellen was dry and abandoned at 660 feet. Wise & Jackson's No. 2 Cullers had an oil show at 546-593 feet, was drilled to a total depth of 605 feet and had an initial production of 50 bbls. Shaw and others' No. 1 Kisenger was recompleted at 2,568 feet, shot twice with 20 quarts and had an initial production of 50 bbls.

RANGER DISTRICT COMPLETIONS

Week ending October 12

Brown County

S. A. Brider's (formerly Herring and others) No. 2 Kessler had an oil show at 1,307-27 feet, was shot with 5 quarts from 1,317-27 feet, was drilled to a total depth of 1,510 feet and had an initial production of 175 bbls. His No. 3 Kessler had an initial production of 432 bbls. at 1,317-41 feet. French's No. 3 Belvin had an initial production of 70 bbls. at 1,295-1,315 feet.

Callahan County

Moutray Oil Co.'s No. 1 Berry was dry and abandoned at 1,503 feet.

Coleman County

Stepp & Keister's No. 1 Morris was dry and abandoned at 2,447 feet, after having been shot with 10, 15 and 20 quarts from 2,060-70 feet. Anzac and Atlantic Oil Producing Co.'s No. 1 Tholl Oil Co. was dry and abandoned at 830 feet. Eppler and others' No. 1 Roper was dry and abandoned at 972 feet.

Eastland County

Hoffman & Page Co.'s No. 3-B Foster had an oil show at 1,290-1,303 feet, was shot with 15 quarts at 1,290-1,305 feet, had an initial production of 20 bbls. and was drilled to a total depth of 1,314 feet. Anna Bell Oil Co.'s No. 1 Murrel was dry and abandoned at 1,335 feet. Lone Star Gas Co.'s No. 2 League was drilled to a total depth of 3,800 feet, encountered sandy lime at 3,768-75 feet and had an initial production of 6,854,000 feet of gas. Texwa Oil Co. and Kirk's No. 1-A Murrell had an initial production of 8 bbls. at 1,330-47 feet.

Haskell County

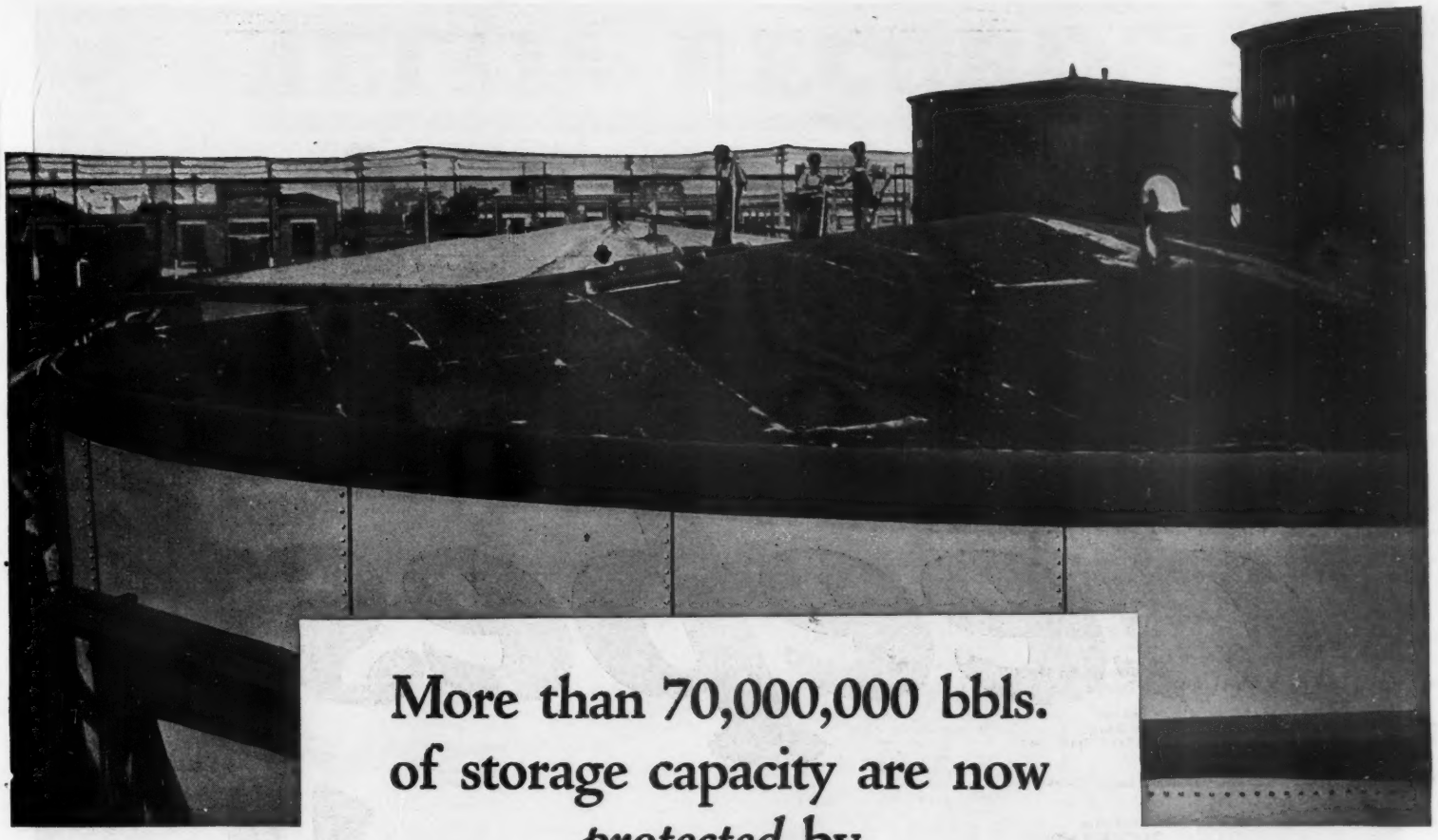
Barnsdall Oil Co.'s No. 1 Roberts was dry and abandoned at 2,400 feet. Superior Oil Corp.'s No. 7 Reynolds had an oil show at 1,748 feet, was drilled to a total depth of 1,753 feet and had an initial production of 25 bbls.

Palo Pinto County

Texas Pacific Coal & Oil Co.'s No. 161 Stuart and others had an oil show at 1,600 feet, was drilled to a total depth of 1,630 feet and had an initial production of 30 bbls.

Shackelford County

Tannehill and others' No. 26 Newell made 50 bbls. at 904-25 feet and was drilled to a total depth of 926 feet.



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World's deepest well (*Long Beach*) 9300 *ft.*

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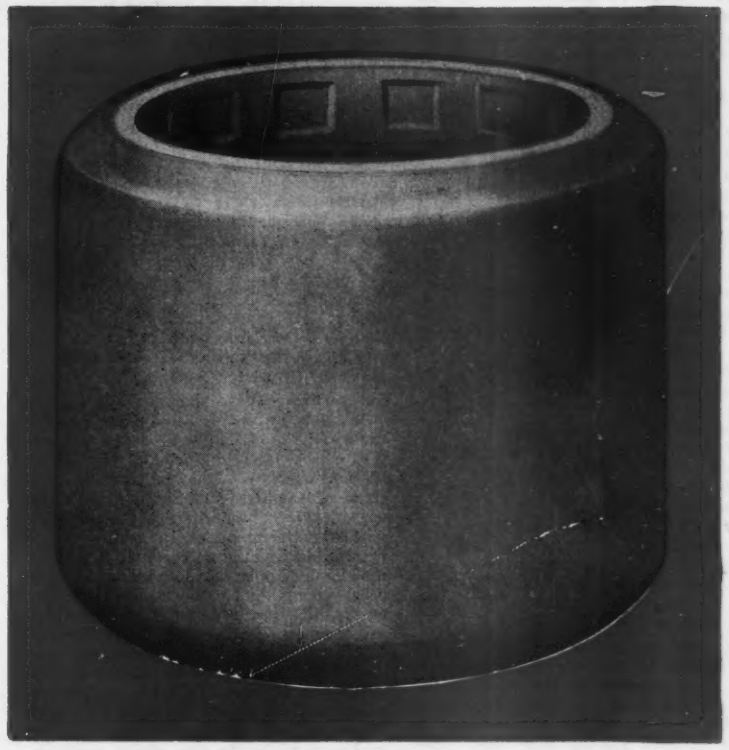
(*Venezuela*)

7102 ft.

[All Rotary]



Deepest well in Texas
Deepest well in Oklahoma
Deepest well in Louisiana
Deepest well in Kansas
Deepest well in Wyoming
Deepest well in New Mexico
Deepest well in India
Deepest well in Borneo

Drilled with Bettis Protectors *for good reasons*

Deeper drilling with its multiplied strains, due to greater hole, increased friction and crooked hole, makes Bettis protection a necessity. The majority of all deep wells throughout the world are now being drilled with the aid of Bettis Protectors. Moreover, the fastest drilling time and the lowest cost are assured by reason of the 55 reasons for Bettis protection. These reasons are fully discussed in the new Bettis Catalog —just off the press. A copy will be forwarded upon request.

"Best bet yet"

Patterson-Ballagh Corp.
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Carried in stock at Los Angeles, Santa Fe Springs, Ventura, Kettleman Hills, Bakersfield, Coalinga, Long Beach, Tulsa, Houston, Wink, Texas; Calgary, Alberta, Canada; New York City.

Natural Gas Developments

ILLINOIS USING MORE HOUSE HEATING GAS

CHICAGO, Oct. 12.—According to a report supplied by the statistical department of the American Gas Association in Illinois the sale of gas for home heating during the first seven months of 1929 showed an increase of 26.1 per cent over the sales for the same months in 1928. This report is based on figures obtained from eight of the larger companies which do 80 per cent of the business in Illinois. This gain was not the largest made by the gas companies in the various states. In Michigan the gain for the same period is given as 58 per cent, in Wisconsin it was 65 per cent and in the New England States, 63 per cent. The percentage of gain showed by the Peoples Gas Co., of Chicago, was but 20 per cent but this is due in part to the fact that the volume of sales of gas for home heating was larger than in some other areas of approximately equal population and the volume of increase was in reality larger than localities which showed a higher percentage of gain.

One of the obstacles which must be overcome by the gas companies is the relatively high cost of installation. It has been necessary to install a heater specially designed for the burning of gas and many home owners with an efficient heating plant have not wished to make the necessary additional investment for a new furnace. This has tended to restrict the installing of gas heating appliances to new construction. The local gas company has devised a gas burner which can be installed in any form of heating plant. The cost of the installation runs from $25 to $75 according to the plant. The burner may be rented for $5 a month which is added to the monthly bills for the gas consumed. The heater may be purchased outright later if found satisfactory. The sales department claims that the responses to this offer have been satisfactory and indicate a large increase in the number of homes which will be heated with gas.

The local gas company is making extensive plans for the sale of gas for heating. At a number of the local plants huge gas tanks of the latest type have been built in preparation for the supplying of natural gas by pipe line. The local and associated gas companies in the vicinity of this city are taking the waste gas from the steel mills and are also experimenting with the gas from one of the major refineries in this district. They claim that the gas to be furnished to consumers after the present plans have been completed will be so much richer in heat units that it will practically amount to a reduction in the price as the quantity used will not need to be more than one-half as great.

One of the engineers of the local gas company stated that in his opinion the use of oil for heating was not economically sound and that every home owner who had an oil burner was a logical prospect for the gas company. It was also stated that the average cost of heating the usual small home in this city with coal was $100 per year for fuel alone. That in addition there was the expense of delivering the solid fuel and of removing the ashes. Few of the owners of the smaller homes hire a man to care for their heating plant where coal was used. Where this was done the cost of heating the home would be double the price of the coal or approximately $200 a year.

It was claimed that for this sum a well-built small house of eight rooms or less could be heated by gas and that the heating would be much more even and more sanitary. The gas burner requires no attention, uses only so much gas as is necessary to maintain the desired temperature, needs no storage space for coal bins or oil tanks and possesses other advantages among which was named the fact that only the gas used is charged for and that bills are paid monthly after the gas has been used.

The oil men profess to see no danger of any decrease in the amount of oil used for home heating and claim that oil has certain advantages over gas which even with an equal cost for gas would make the oil burner desirable compared with the gas burner. They also point out that it is only in the larger communities that gas can be supplied for heating and that there are millions of homes which are not now and probably never will be connected with the gas mains.

WHITWELL DISCUSSES SALES METHODS IN PRESENT STRONG COMPETITION

By George E. Whitwell
Vice President in Charge of Sales, Equitable Gas Co., Pittsburgh, Pa.*

It was not so long ago that the gas maker and the well driller were considered to have entirely discharged their responsibilities if they economically put manufactured gas into city mains or introduced natural gas into far-flung transmission systems. All of us can remember when the accountant was considered to have done his job when his books were in order and his contacts with the public were such that errors had been reduced to an almost negligible minimum. At one time, the engineer was limited in his conception of the gas business to the relatively narrow confines of the drafting room or of the chemical laboratory.

All this has been changed in those companies where successful sales methods are found. The gas maker, the fieldman, the street gang, the meter reader, the draftsman and the complaint clerk are constantly mindful that sales and more sales are part of their responsibilities. They are on the alert to the possibility of a new extension, they are active with their neighbors in promoting the value of increased gas use, they are cognizant of the possibilities of gas use in the commercial and industrial establishments with which they come into contact. Furthermore, they are themselves sold on gas and use it themselves, wherever possible. In short, they have become a part of the sales department.

Methods differ in utilizing among the rank and file of employes this consciousness of the necessity for sales promotion. In some companies, they have reached the stage of employe campaign, through the use of which, for limited periods, and without interference with the employe's regular duties, there is actual selling of the simpler appliances by all employes. In other companies, prospect systems have been built up through the use of which salesmen are given leads that, if successfully turned into sales, result in the payment of commissions to employes submitting the prospects. In other companies, efforts among employes have been limited to their education by written and spoken word in the aim, object, methods, and requirements of selling.

The all-important factor is the necessity for creating in the employe a sympathetic and complete understanding of the necessities of the sales department so that he may be counted upon to do his bit. There can be no better slogan, in my opinion, for any gas company than the one that states "Every Employe a Salesman."

We are not selling merely 1,000 cubic feet of gas but rather the accomplishment by the customer of something which he desires. We cannot, therefore, be content with stopping our efforts at the meter but must extend our jurisdiction so that it covers the appliance and its installation. The best gas service fails if the cooking range and water heater are obsolete or inefficient or perhaps even unsafe; it does not reach its goal if the house-heating equipment is poorly designed, or if properly designed, is improperly installed; it will undo all other successful sales effort if the commercial or industrial installation does not take full advantage of the most advanced engineering knowledge.

The gas company by itself can properly and intelligently do a great deal in its supervision over appliances and equipment but, in my opinion, any company is failing to use all available facilities if it limits its efforts in this regard to itself and fails to recognize the assistance obtainable from the many other outlets for such gas appliances and equipment. The day is at hand when co-operative effort between all agencies is becoming a reality. Mutual understanding between the manfacturer and the utility is essential. The jobber can be brought to a complete realization of the selling problem of the utility. Methods can be worked out which, in promoting the interests of the dealer, the plumber, the department store and other retail outlets will, at the same time, accomplish the objects sought by the utility.

There are to my mind five fundamentals:

1. Co-operative and sympathetic sales understanding and assistance by the entire personnel of the industry.
2. Competitive rates that will attract profitable business.
3. Excellent gas service in the broadest sense in which this term can be applied.
4. The maximum utilization of all retail outlets, and
5. A sales department that understands selling, sales psychology and effective sales methods.

On this basis, every employe becomes a salesman.

*Before Natural Gas Department meeting, A.G.A., Atlantic City, N. J., October 14-16.

USING KETTLEMAN GAS

LOS ANGELES, Calif., Oct. 12.—The Pacific Gas & Electric Co. is taking gas from Milham Exploration Co.'s (Mexican Seaboard) No. 1 Elliott, the discovery well at Kettleman Hills, at the rate of 32,000,000 feet per day, and about 15,000,000 feet daily from the Standard Oil Co. of California's No. 81. This gas is being used by them in a steam plant to generate electricity for San Francisco and also in the town of Santa Clara for domestic and commercial uses.

GAS FOR COVINGTON, VA.

RICHMOND, Va., Oct. 14.—The possibility that natural gas may be brought to Covington, Va., has created great interest there. Three companies are represented in the gas fields that are regarded as the most probable to supply Covington with the gas should the town decide in favor of bringing gas there. They are the Bozoo Co., Columbia Gas & Electric Co., and the Union Gas & Fuel Co.

GAS LINES TO CHICAGO MAY SOON BE COMBINED

Extension of the gas system being created in the Middle West by the interconnection of long distance transmission lines of the various utilities operating in that section was seen in the announcement of plans to finance a 78-mile extension to its high pressure gas transmission lines by the Indiana Consumers Gas & By-Products Co., which owns and operates a by-products gas plant at Terre Haute, Ind., with a maximum rated capacity of 8,400,000 feet of gas a day. It supplies at wholesale under long-term contracts the entire gas requirements of the Indiana Gas Utilities Co., a subsidiary of the Associated Gas & Electric Co., which serves Terre Haute, Ind., West Terre Haute and Brazil, and will shortly add to their system the city of Clinton, Ind.

Two additional long-term contracts were recently signed by the company to supply gas to wholesale through high-pressure transmission lines to the Central Illinois Public Service Co., and to the Interstate Public Service Co., Indiana properties. Under these contracts the company has agreed to furnish the entire gas requirements of the Central Illinois company for four communities using approximately 190,000,000 feet of gas annually and the entire gas requirements of Interstate Public Service in five communities using approximately 300,000,000 feet annually.

It is anticipated that a number of other cities and towns in Illinois and Indiana will be connected with these transmission lines.

ASKS REHEARING

LOS ANGELES, Calif., Oct. 12.—The Consumers Gas Co., a newly organized firm, has joined with the application of the Western Natural Gas Co. for a rehearing on the order of the State Railroad Commission giving the Pacific Gas & Electric Co. exclusive rights to construct a pipe line for natural gas through the San Joaquin Valley with a terminal point in Contra Costa County.

According to the Consumers company's application, the company was formed to purchase natural gas at wholesale from the Western and sell it at retail throughout Alameda, Merced, Stanislaus and San Joaquin Counties.

BUYS LOVELL GAS CO.

The Rocky Mountain Gas Co., subsidiary of the Ohio Oil Co., has purchased from the Lovell Gas Co. its gas production on the Byron Dome, including two gas wells, its lines in the field, and distributing system in the town of Lovell.

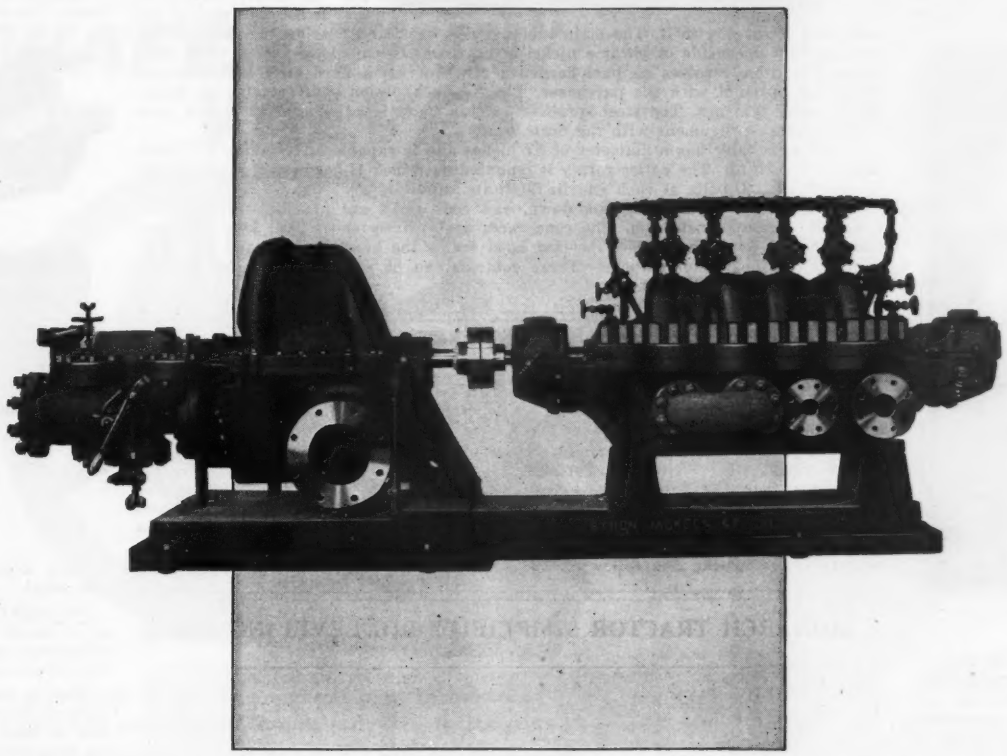
The town of Powell is now served by the Rocky Mountain Gas Co. with gas from the Byron Field where the Ohio has large gas reserves developed. The wells taken over from the Lovell Gas Co. are on the east dome. The oil rights on the leases are not included, but practically all of the east dome is covered by gas leases which will give the Rocky Mountain Gas Co. large gas reserves in both domes.

The Lovell sugar beet factory is supplied with gas from the company lines, and the company distributing gas in Cowley and the municipal lines in Byron both purchase gas from the Rocky Mountain Gas Co.'s lines.

OKLAHOMA FRANCHISE

Geary, Okla., will hold a special election November 5 on granting a gas franchise to the State Fuel Supply Co. The company is also seeking franchises at Bridgeport, Hinton, Lookeba and Binger.

HOLMES-MANLEY CRACKING PROCESS PUMPS



This pump handles cold oil against 700 pounds discharge pressure as used in the Holmes-Manley Cracking Process. The Byron Jackson Multiplex Centrifugal Pump is extra heavy, built in eight stages and direct connected to a steam turbine. No matter how special your pumping requirements may be, there is a Byron Jackson Centrifugal Pump exactly suited to meet your needs.

SINCE 1872
BYRON JACKSON CO.
Factories: BERKELEY, Los Angeles, Visalia, Calif.
Branches: NEW YORK and CHICAGO
San Francisco, Portland, Salt Lake, Tulsa, Dallas, Phoenix

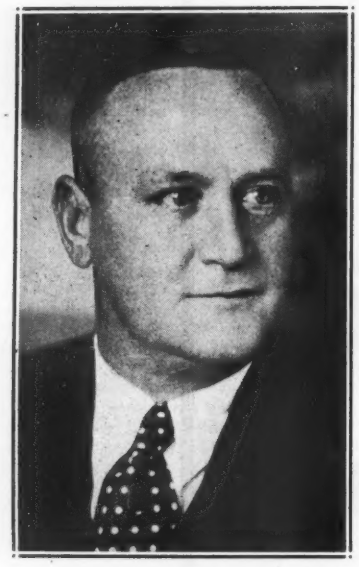
BYRON JACKSON
CENTRIFUGAL PUMPS FOR EVERY SERVICE

EQUIPMENT AND SUPPLIES

AINSLIE SALES MANAGER OF OIL FIELD DIVISION

Appointment of H. D. Ainslie as sales manager of the oil field division of the MacClatchie Manufacturing Co. has been announced by J. Warren MacClatchie, head of the oil field and specialty aviation engine concern.

"Duke" Ainslie is well known on the Pacific Coast, in the Mid-Contient, and in New York, having had many years in oil field selling. At the start of the North Texas activity he was transferred to Houston as sales manager of the Lucey Manufacturing Corp. of Texas, and remained in that office until El Dorado, Ark., came in, boomed, and settled down. "Duke" then returned to California and Paul Boggs, then president of the Union Tool Co., sent him to the New York office of the National Supply Co.



H. D. Ainslie

During the last few months he has been in Kettleman Hills and the Kern County fields surveying present California field practice and renewing old acquaintances. Mr. Ainslie will make his headquarters at the Compton office of the MacClatchie Manufacturing Co.

NELSON PUMP PISTON IS A NEW DEPARTURE

The Nelson self-equipped slush pump piston, manufactured by National Tool & Metals, Inc., Torrance, Calif., represents a new departure in self-expanding pistons, in that it holds a constant tension against the liner of the pump at all times, regardless of the pressure imposed upon it.

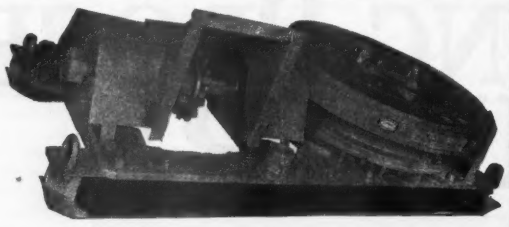
The construction of the Nelson piston is such that a high grade vanadium steel spring constantly exerts the pressure against four tapered slips which in turn expand the rubber of the piston and hold it snugly against the liner of the pump.

The tension of this spring never varies, so strong is it built. The piston is constructed to eliminate the thing that causes 60 per cent of pump piston troubles; namely, the shooting by of the fluid and the consequent loss of stroke motion and shock on the rocker arms, etc. The piston is nonpulsating in action and is made to fit all sizes of pumps.

Firebond, a high-temperature cement manufactured by the Harbison-Walker Refractories Co., Pittsburgh, Pa., is the subject of a bulletin issued by that company.

IDECO INTRODUCES A NEW MAKE AND BREAK ROTARY

The Boykin Greyhound division of the International Derrick & Equipment Co., familiarly known as "Ideco," has introduced a new 27-inch Superior make and break rotary having greater speed, smoother operation and roller bearings. The new rotary is changed quickly from a make-up position to the break-out position by lifting the spider by the catline until the teeth are disengaged. Slides then are moved out and the spider lowered so that it becomes part of the table and revolves with it. The main table, spider, table and bearing box base, pinion and sprocket are made of chrome nickel steel, thus assuring long life to these vital parts. The table revolves on pack-hardened cones or extra hard steel ball bearings, which are optional with the purchaser. The $3\frac{A}{16}$-inch pinion shaft rotates on 4-inch Hyatt roller bearings. The steel sprocket on this shaft is adjustable 12 inches, thus assuring proper alignment with the draw works.



The main table has a diameter of 57 inches and is capable of receiving a 27-inch fishtail or rock bit. The entire rotary is mounted on 8-inch H-beam steel skids 10 feet in length with U-bolts at each end to facilitate handling.

The bearing boxes, table hold-down, and cone races are provided with connections for Alemite lubrication. The cone races are entirely encased to keep out mud and grit. A heavy gauged steel sheeting hood covers the bearing boxes and serves as a guard for the pinion sprocket. These rotaries can be equipped with the Boykin patented grief stem drive.

SHARPLES OIL PURIFIERS

The largest portable combination centrifuge and filter press on the market is now being offered through the Westinghouse Electric & Manufacturing Co. It is the Sharples Combination Portable Super-centrifuge and Filter Press, made by the Sharples Specialty Co. A Sharples super-centrifuge is combined with Westinghouse filter press equipment and mounted on a truck. The following advantages characterize it: Thoroughly cleans 1,200 gallons of oil per hour continuously; purification is complete in one operation; operation is simple and clean; practically no oil is lost in handling; construction is sturdy and simple; maintenance is remarkably low; occupies little floor space, 54 inches by 106 inches; can be moved easily from place to place. This outfit fills the needs of those who have large amounts of oil to clean quickly and satisfactorily.

MONARCH TRACTOR SIMPLIFIES BIG LEVELING JOB

Allis-Chalmers Monarch "75" hauling heavy load through sand over rough going on Gulf Refining job, under work by A. F. Hartigan Co., of Hammond, Ind.

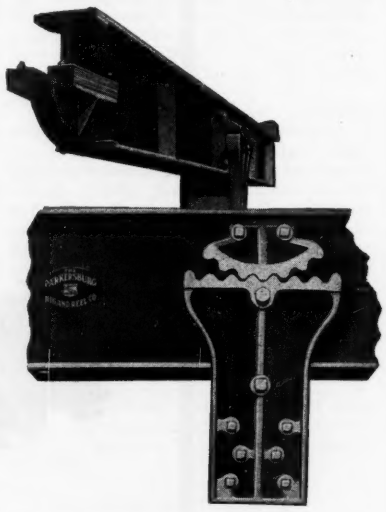
Moving 500,000 cubic yards of dirt in leveling off more than 100 acres of land, most of it covered with sand dunes, presented difficult problems, which have been solved by the use of Allis-Chalmers Monarch "75" tractors, made by the Allis-Chalmers Manufacturing Co., Milwaukee, Wis. This equipment is being used by the A. F. Hartigan Co. of Hammond, Ind., on the job of leveling the site for a large addition to the plant of the Gulf Refining Co. in East Chicago, Ind.

This sand is full of sink holes, into which wagons hauling heavy loads of sand often sink to the hubs, but the Monarchs pull their loads steadily onward. On this job wagons are loaded to the limit, pulled to low places by the Monarchs, and dumped. After a sufficient space is cut and filled, a land leveler is attached to the Monarch which levels off the land to make an even plat of ground.

The Monarch "75's" maximum drawbar horsepower determines in many operations the difference between getting stuck and proceeding with the work. Unusually high road clearance, low upkeep cost and accessibility of all parts are features of Monarch tractors. It is 100 per cent balanced with its weight thrown well forward on unusually long tracks, resulting in constant ground contact. Throughout the tractor devices are provided to shorten the time for lubrication, inspection and adjustment or replacement.

SUSPENSION PRINCIPLE OF WALKING BEAM NEW

The Parkersburg ICR type steel walking beam introduces a new principle of suspension for this member of rig equipment. Unlike the usual walking beam saddle, with trunnions operating in side iron bearings, the ICR type in motion rocks on a pair of cogs on either side. The position of the fulcrum center is on the same horizontal line with the temper screw or pumping hanger bearing. This equalizes the load, thereby preventing weaving or side sway of the walking beam. The saddle bearings furnished will



fit any samson post drilled for A.P.I side irons.

The walking beam proper is constructed of heavy 24-inch steel I-beam amply reinforced, and is furnished in 24 or 26-foot length as desired.

This is one of several types of steel walking beams made by the Parkersburg Rig & Reel Co., Parkersburg, W. Va., for both drilling and pumping service.

MacCLATCHIE PANTHER TESTED BY GOVERNMENT

Involving new principles of lubrication, simplified construction, and radically reduced wind resistance. the MacClatchie "Panther" L-head radical aviation engine developed by the MacClatchie Manufacturing Co., makers of oil field specialties, is being tested by the Department of Commerce in Washington for an approved type certificate.

Absence of rocker arms is a feature of the company's new power plant that has attracted interest in the oil industry following the recent series of refueling hops. Undue wear on these and allied parts, through poor lubrication, played an important part in the earlier flights and later the pilots installed special lubricating systems. The "Panther" has an overall diameter of only 36 inches, developing 150 horsepower at 1,850 revolutions per minute. It is a seven-cylinder engine, with adequate air cooling, as the air completely surrounds the valves.

J. Warren MacClatchie, head of the concern under whose supervision the engineers of the MacClatchie aviation division developed the "Panther," is now in Washington. As soon as word of approval is received, production will begin in the first section of a $200,000 factory adjacent to the present plant of the company in Compton, Calif. The engine division will be conducted entirely apart from the oil field division.

SULLIVAN

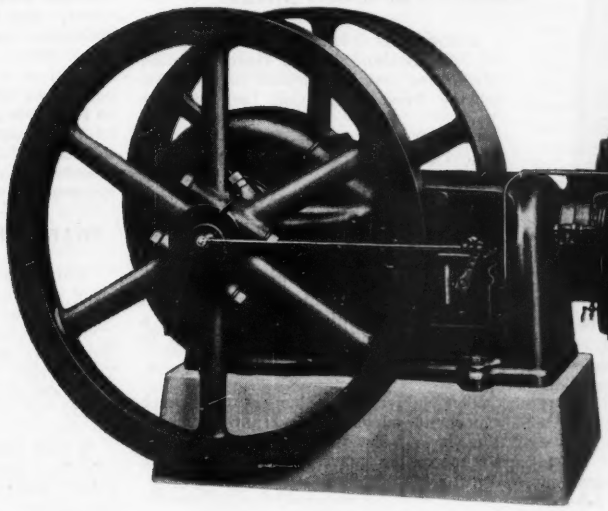
"WG-6"

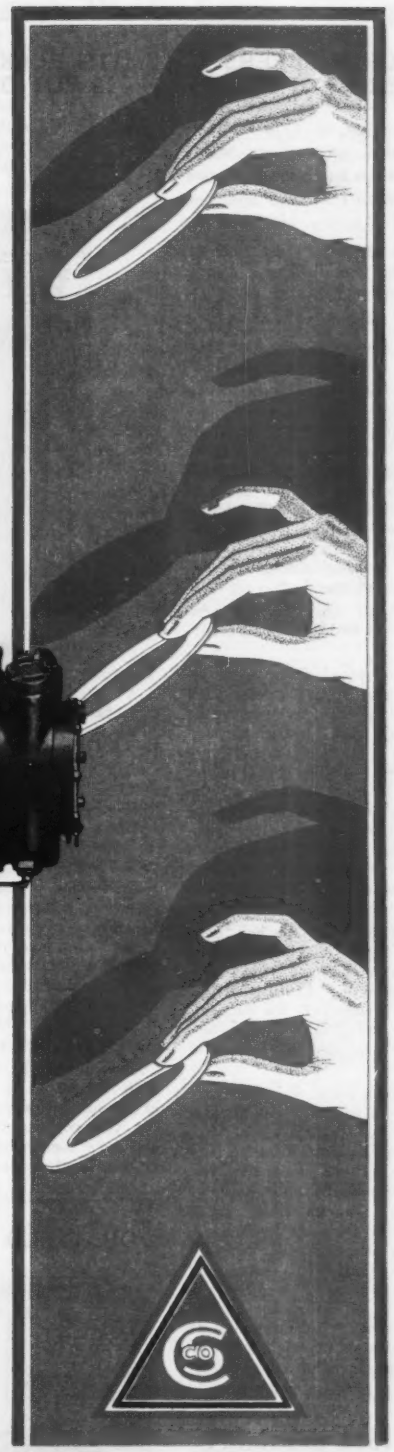
COMPRESSORS

for RE-PRESSURING . . .

WITH

"WAFER-THIN" VALVES





This compressor is playing a great part in oil recovery by the Air and Gas Lift method, due to its simplicity, compactness, power economy and its requirement of only a minimum of care and attention. The Sullivan "Wafer" Valves save power and are easy to get at and adjust.

"If Continental Sells It . . . . There Is No Better"

THE CONTINENTAL SUPPLY CO.

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CONTINENTAL

EQUIPMENT AND SUPPLIES

BYRON JACKSON OFFERS NEW SERIES OF PUMPS

A complete new line of Type S horizontal, double-action, single-stage, split-case centrifugal pumps has been developed by the Byron Jackson Co., with factories in Berkeley, Los Angeles and Visalia, Calif. These new pumps, compared with pumps installed by the company only a few years ago, are reported to show an average gain in efficiency of 4 to 16 points, depending upon the size and type of pump.

A given pump may be adapted to a wide range of operating conditions by merely changing impellers. The top half of the case may be removed to expose the entire rotating element for purposes of inspection or repair without disturbing pipe connections or driver. The pump case is cast of close-grained iron of uniform thickness in two pieces, divided horizontally by a single-flanged joint along the centerline of the shaft.

The impeller is of the enclosed centrifugal type, made of bronze, unless otherwise specified.

The shaft is protected from wear at the stuffing box and from contact with the liquid at all points by renewable sleeves, threaded on the shaft at the impeller hub in such a manner as positively to fix the impeller to the shaft in an axial direction. Proper rotation of the pump tends to tighten the sleeves on the shaft. This construction permits expansion and contraction of the sleeves caused by changes in temperature, without loosening the thread, and thus prevent leakage under the shaft sleeves.

The double-suction impeller has been designed to effect hydraulic balance and maintain the rotating element in a central position in the case. As an additional precaution and to provide for unequal wear within the pump a suitable ball thrust bearing is provided in the outer bearing bracket.

Renewable wearing rings of bronze, unless otherwise specified, are fitted about the suction mouth of the impeller.

For pumping liquids containing stringy materials a single suction open impeller, supported in a horizontally split case, by an overhung shaft, is employed. For pumping viscous liquids, such as fuel oil, impellers specially designed to allow for the viscosity are furnished instead of standard water impellers. For other conditions occurring in oil refineries and in special service pumps, it is necessary to supply shaft sleeves of special material and packing glands incorporating safety features. All have been developed and are available.

LUCEY MEN TOUR OKLAHOMA

Following a visit to the International Petroleum Exposition in Tulsa these officials of the Lucey Products Corp., Chattanooga, Tenn., are making a tour of the Oklahoma fields before returning to their headquarters: W. B. Goldey, European manager from London; T. M. Kerr, manager of Oklahoma Field sales; R. S. Levering, vice president and manager of southern district, and G. L. Blaxton, district manager at Shreveport, La. Other representatives of the company who attended the Exposition were O. H. Attridge, chief engineer, and T. C. Ervin, superintendent of the boiler plant, Chattanooga, and the following field men from Oklahoma, Texas and Louisiana: W. H. Gillis, K. C. Lowry, F. M. Bohn, C. A. Morgan, R. L. Merrill, J. D. Hicks, Jr., J. G. Stobaugh, Hugh B. Hodges, R. L. Carpenter, and C. C. Wimberley.

SMITH ROCK CORE BIT IS PUT ON THE MARKET

The H. C. Smith Manufacturing Co., Inc., Los Nietos, Calif., announces a rock core bit completing its line of coring equipment cutter heads for any formation. This rounding out of the coring equipment line enables users of H. C. Smith coring equipment to obtain paleontological and geological data in the hardest formations ranging from schist quartz and chert to the softer sand chalk and anhydrites.

Perfection of machining principles and improved roller cutting action are evident in this new rock core bit. In the Type C soft and medium core bits (the latter diamond set) the cutter head is very short, and cutters are changed quickly and easily. Because of the improved cutting action of the rollers the need for reamer rollers above is eliminated.

The inner barrel is three-sixteenths inch larger than the core cut on any given size, thus allowing easy entrance for the core and avoiding jamming of the core formation at the mouth of the cutter head and burning the bit. The core catcher employs both the spring fingers and slip rings to retain the formation. The rollers may be changed easily in a few minutes at any rig since a new and simple type of eccentric lock pin is employed in the head to retain the roller cutters.

Thorough circulation of the roller cutters is obtained by placing the circulation holes above the "up side" of the rollers providing a fine jet action for cleaning them. Additional protection against lack of circulation is afforded by intermediate circulation holes placed between each two roller cutters.

An important feature of this roller cutter head is that it is interchangeable with the medium and soft formation heads. In medium formation the first digging diamond metal head is used and in hard rock formation a rock core bit is substituted.

BUSINESS NOTES

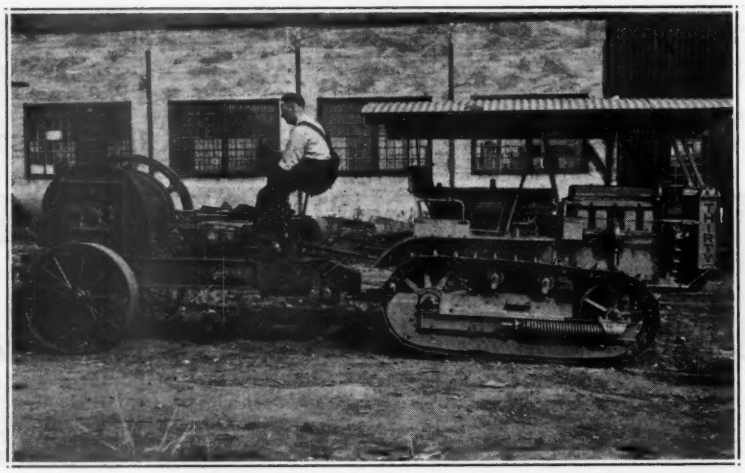
A new Prest-O-Lite acetylene gas plant, at 575 Kirkland Street, Grand Rapids, Mich., has just been placed in operation by the Prest-O-Lite Co., Inc., of New York.

Webb W. Wilson, vice president in charge of production, oil tool division, Byron Jackson Co., Los Angeles, Calif., closing a 60-day business trip which included the annual convention of the American Society of Steel Treaters in Cleveland, Ohio, a visit to the company's New York office and the International Petroleum Exposition in Tulsa, is on a tour of the Mid-Continent oil fields in the interests of his company.

The Sullivan Machinery Co.'s branch office and warehouse in Huntington, W. Va., have been moved from 736 Third Avenue to new quarters at 702-704 Eighth Avenue.

One of the largest power pump units ever built by the Gardner-Denver Co. in its plant at Quincy, Ill., has been shipped to an oil company in Asia. This unit includes two 7¼ by 14-inch power booster slush pumps, complete with a large power plant.

OIL-FIELD HYSTER DOES PULLING AND BAILING JOBS



Oil field Hyster with Caterpillar 30 tractor.

The new oil field Hyster, manufactured by the Willamette-Ersted Co., Portland, Ore., for use with the Caterpillar tractor, was designed after three years' intensive study of the Mid-Continent and Eastern oil fields. It is said to meet every requirement for pulling casing, tubing, sucker rods and for faster bailing work. The Hyster is mounted on a trailer and can be detached in less than five minutes, allowing the tractor to be used for other purposes.

TOWER AND SPRAY POND ADVANTAGES COMBINED

The Marley Co., Kansas City, Mo., is putting out an addition to its line of water-cooling equipment, the Spray Deck tower, for use wherever towers of high capacity and efficiency are required.

The Marley Spray Deck tower combines the advantages of standard deck type towers and spray ponds. Elimination of troughs, launders and flumes is effected and a highly efficient spray pond is used instead. Correct water breakup and distribution are accomplished. The upper part of the tower is made to produce maximum results. An extremely simple and efficient decking method is used. Air circulation is a maximum and is upward as well as horizontal.

The tower is simply a conventional form of deck type cooling tower with a spray cooling system in the top for more efficient breakup and distribution of the water. The large open type spray nozzle eliminates any tendency to clog, at the same time securing an extremely fine breakup of all water discharged. The incoming air as it is heated has a tendency to rise through the spray pond and owing to the absence of decks this effect is noticeable. A large portion of the heat transfer is accomplished before the water reaches the decks below.

TRADE LITERATURE RECEIVED

"Oil Field Welding Demands Equipment of Wide Range," "The Origin and Development of Oil Well Tools," and "New Principle Used in Rebuilding Worn Bits," are among articles of interest in the current number of "Fusion Facts," published by the Stoody Co., Whittaker, Calif.

A new catalog prepared by the Mac-Clatchie Manufacturing Co., Compton, Calif., illustrates and describes oil field specialties, including automatic safety catheads, geared brake for draw works, rotary underreamers, mud pump valves, quick unions, stopcocks, flow nipples, valve seat pullers, quick change heads, pump liner pullers and automatic pump pistons.

Pictures in the current number of Heat Engineering, published by the Foster Wheeler Corp., New York, show a complete Foster Wheeler refinery unit recently erected on the island of Trinidad for the Trinidad Leaseholds, Ltd. This unit, built in tropical surroundings, has a throughput of 7,000 bbls. of crude daily.

Bulletins recently issued by the General Electric Co., Schenectady, N. Y., include one on oil well pumping equipment, describing an electric drive for all operations in pumping, bailing and swabbing; pulling rods and tubing, cleaning out with tools and handling casing in emergencies.

Flagg fittings for the oil industry are described in a new catalog issued by Stanley G. Flagg & Co., Philadelphia, Pa. This company was founded in 1854 and the catalog, showing malleable and cast iron fittings for oil refineries, pipe lines, gasoline plants and other high-pressure service, marks its seventy-fifth anniversary.

The complete story of water lubrication and the modern development of pumps for all industries is told in Bulletin No. 16, issued by the Pomona Pump Co., Pomona, Calif. The bulletin lists applications of Pomona water lubricated pumps and gives the capacity ranges of different styles.

Californian Gives View of Situation

Representative of West Coast Association Presents Pacific Conditions Before Mid-Continent Body at Annual Meeting in Tulsa

By Edwin Higgins
Managing Director, California Oil & Gas Association*

The directors of the California Oil & Gas Association were indeed pleased to receive your invitation to send a representative to the annual banquet of the Mid-Continent Oil & Gas Association. It is my hope that this visit may result in a better understanding, on your part, of the problems that are confronting California operators; and that I may take back with me a clearer view of the situation in the Mid-Continent Field. It has been said that there is great need for closer co-operation within the oil industry, and it is just as true that better understanding is the essential requirement for the success of all co-operative effort.

The situation in California presents two separate and distinct pictures; namely, the overproduction of petroleum, which vitally affects the producers; and the overproduction of gas, in which oil operators are interested from a standpoint of conservation and economy, but in which the state authorities are seriously concerned.

The Picture in Oil

Early in 1929, following the lead of the Mid-Continent producers, an earnest effort was made to limit the production of oil to that of 1928. Fair results were obtained in fields where there were few operators, but in areas of large production, with many leaseholders, little headway could be made. After three months of costly effort, this plan failed in its purpose.

Recent developments have served only to intensify the seriousness of the problem, for California has continued to add to its production through the development of the Seal Beach and Elwood Fields and the lower sands of Santa Fe Springs and Signal Hill. In addition, there is the Kettleman Hills situation, with respect to which there has been so much controversy between the Federal Government, state authorities, government permittees and private landowners. The tremendous potential of this field is now being held in check through voluntary agreements entered into by the various factions.

With few exceptions, California oil operators fully realize that they, as well as producers throughout the nation, are face to face with an overproduction problem of most serious import, and that upon the solution of this problem depends the prosperity of the oil industry.

Natural Gas Situation

In southern California, beginning with Ventura County on the north, the production of oil has been for many years accompanied by large volumes of natural gas. The Los Angeles Basin, the heart of a large center of population, has provided an immediate market for gas for both domestic and commercial uses. This gas has been cheap enough to warrant its use to generate electrical power, in spite of the availability of hydro-electric power. It is conceded that the great commercial prosperity of southern California has been built up and maintained by this plentiful supply of low-priced gas fuel.

At the present time, southern California has natural gas distributing facilities from Paso Robles on the north to San Clemente on the south. Present and projected pipe lines will provide the State with this natural fuel from San Diego on the south to San Francisco, Stockton and Sacramento on the north. The area thus embraced comprises about 80 per cent of the entire State's population and an even greater proportion of its industries other than agriculture.

Late in 1927, state authorities took cognizance of the great value of our natural gas and also of the fact that large quantities of gas were being blown into the air. In October, 1927, the Governor of the State announced the appointment of the "Governor's Gas Conservation Board" and called upon the oil industry to endeavor to curb the overproduction.

The oil industry threw its manpower into this undertaking by the appointment, in January, 1928, of an operators' general committee on gas conservation, and the formation of field subcommittees throughout the State. The California Oil & Gas Association was made the clearing house for the work to be done. There followed over a year of intensive and sincere efforts to bring about voluntarily a cessation of the waste. Early estimates indicated that the problem involved the conservation of a maximum of 160,000,000 feet of gas per day. After six months of work, under the shut-in policy adopted and through storage and repressuring, a total of 190,000,000 feet of gas per day was being conserved. However, the bringing in of new and important fields caused the surplus of gas to mount continually. All efforts to organize repressuring districts were defeated by a lack of participation on the part of producers representing from 10 to 20 per cent of the total production of gas. By the end of May, 1929, the surplus had increased to over 500,000,000 feet of gas per day, and the present figure is slightly more than 600,000,000 feet.

The fields that are contributing the bulk of this excess are Santa Fe Springs, Signal Hill, Ventura Avenue and Seal Beach, named in the order of their importance as gas producers. Kettleman Hills is producing over 200,000,000 feet daily from three wells. The recently installed 20-inch pipe line to San Francisco is taking 50,000,000 feet of this, and other projected lines will be ready by fall to handle upward of 250,000,000 feet per day.

State Legislation

The leaders of the oil industry in California realized fully the effect of overproduction on the business of producing and marketing oil and they were naturally desirous of formulating some method of curtailment. It was recognized that state regulation of the production of oil was difficult, if not impossible; but the overproduction of gas was subject to regulation and that was the chief concern of the State.

In January, 1929, at the request of the state authorities, a bill was formulated having for its purpose the prevention of the unreasonable wastage of natural gas. This bill was passed by the state legislature and signed by the Governor on May 25. The director of the department of natural resources set the enforcement date at September 1.

This bill was based upon two theories: First, that the unnecessary production of gas is unreasonable wastage; and second, that the blowing of gas into the air is unreasonable wastage. For the purpose of determining unreasonable waste, two procedures are provided, (1) a hearing before the oil and gas supervisor, with right to appeal to the court; (2) a direct proceeding brought by the director of the department of natural resources to enjoin wastage.

In accordance with this latter procedure an action was brought on September 11 against producers in the Santa Fe Springs Field, seeking to enjoin the blowing of gas into the air and to enjoin the unreasonable production of gas with the oil. The enforcement of this action is receiving intense opposition from a certain class of operators, who deny the power of the State to interfere in any manner with their operations and who will contest the constitutionality of the action. Others maintain that as long as they operate their wells properly, they have a legal right to produce oil therefrom, and that the production of gas is incidental to the production of oil. Another class of operators maintain that the blowing of gas into the air may be enjoined, but the State has no power to interfere with the operation of their properties provided they do not blow gas into the air.

The Santa Fe Springs suits came up for hearing on September 23, at which time continuance was granted to October 14. In the meantime, the oil and gas supervisor conducted proceedings for the purpose of determining whether or not there is unreasonable wastage of gas in the Ventura Field. If the State's application of this law is upheld, and the leaders of California's oil industry sincerely hope that it will be, we may look to see a greatly increased shut-in of oil production, which theoretically, under full enforcement, might reach a total of 40 per cent of the present output.

Plans for Operation Under New Law

The major companies, realizing that the success of the law is dependent upon their consideration of the rights and interests of all producers, large and small, developed a plan, having for its purpose the prorata taking from all producers of gas for which uses may be obtained, including gas used as fuel, gas used in underground storage, and repressuring and gas used to satisfy the demands of the public utilities. Such gas prorating, it is believed, would result in an equitable prorating of oil production. The agreement does not deal with the operation of oil wells, nor does it prohibit the wastage of gas. That remains a state function.

The major companies agreed to finance this undertaking to the extent of approximately $1,250,000 per year. The companies produce approximately 60 per cent of the oil in the four fields involved, and control about 80 per cent of the gas outlets, which later they offer to share prorata with all other producers in these fields.

A contract embodying this plan was formulated, approved as to form by the oil and gas supervisor, executed by the seven major companies, and then submitted to all companies in the Ventura, Santa Fe Springs, Seal Beach and Signal Hills Fields, with the invitation that they become parties there and share in its advantages. The attitude of the smaller operators towards this plan is still uncertain. Some have accepted the invitation; others have definitely declined, while the majority seem desirous of awaiting the determination of the injunction proceedings.

California's leading oil operators well realize the calamitous results that must follow the failure of the law to function properly. They have waged a long drawn-out battle against overproduction and, while offering no guarantee of complete victory, are hopeful of a large measure of success. Having faith in the good judgment of these men, it is my belief that our drama will have a happy ending—an ending that will be satisfactory to both actors and audience alike—an ending that will be of benefit to the oil industry.

*Before annual meeting Mid-Continent Oil & Gas Association, Tulsa, October 9.

ASSOCIATION CHOOSES HERNDON TO LEAD KANS.-OKLA. DIVISION

At the annual meeting of the Kansas-Oklahoma division of the Mid-Continent Oil & Gas Association held in Tulsa on Wednesday, October 9, C. C. Herndon of Tulsa, vice president of the Skelly Oil Co., was elected president; E. H. Moore, Tulsa, president of the Independent Oil & Gas Co., first vice president; John H. Kane, Bartlesville, vice president of the Phillips Petroleum Co., vice president for northern Oklahoma; Wirt Franklin, Ardmore, president of Wirt Franklin Petroleum Corp., vice president for southern Oklahoma, and A. M. Landon, Independence, Kans., oil producer, vice president for Kansas. Harry H. Smith was re-elected secretary and treasurer.

The executive committee of 93 members, is the same as that of last year with a few exceptions. Paul Ache, Reiter-Foster Corp.; A. M. McCorkle, Dixie Oil Co.; E. R. Filley, The Texas Company, and Tom C. Johnson of Wichita, Kans., oil producer, are the new members.

The following members of the committee were elected to serve on the executive committee of the general association: A. M. Blow, Burnett Blue, Louis Campbell, Burt H. Collins, W. N. Davis, J. C. Denton, A. L. Derby, W. W. Fleming, H. V. Foster, W. C. Franklin, Wirt Franklin, James A. Green, R. A. Griffith, C. C. Herndon, J. H. Hill, John H. Kane, Dana H. Kelsey, Joe T. King, W. L. Kistler, A. M. Landon, J. H. Markham, Jr., Henry McGraw, P. M. Miskell, E. H. Moore, D. J. Moran, Waite Phillips, W. R. Ramsey, E. B. Reeser, Alvin Richards, W. G. Skelly, Harry H. Smith, H. R. Straight, James A. Veasey, P. G. Walker, Jr., C. J. Wrightsman and Tom C. Johnson.

Curtailment and Unitization

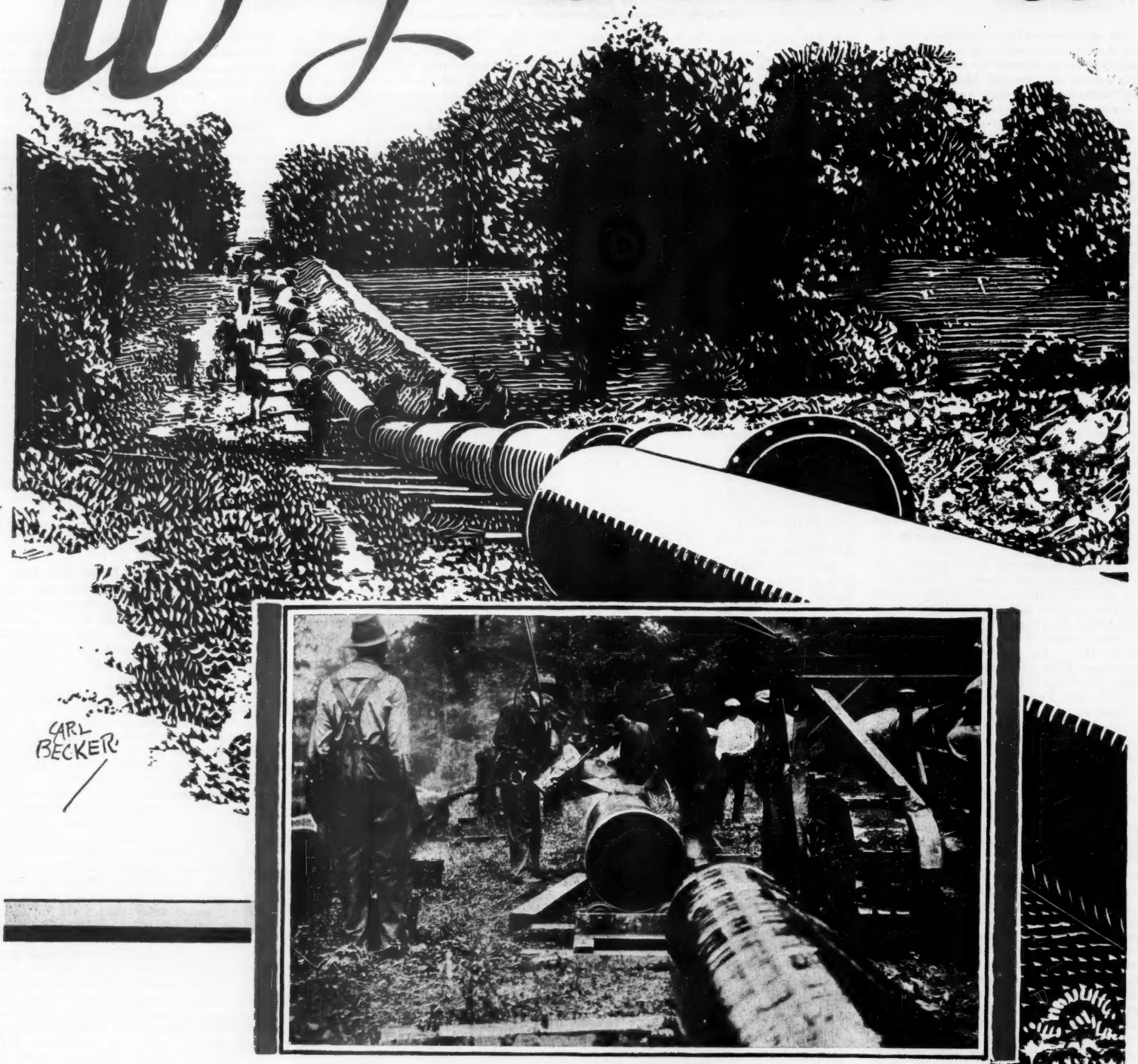
The Kansas-Oklahoma division put itself on record in favor of curtailing production and unit development in the United States in the following resolution which was unanimously adopted.

Resolved, by the Kansas-Oklahoma division of the Mid-Continent Oil & Gas Association, that the attention of the producers of crude oil should be directed to the fact that there has been a heavy accumulation of petroleum and all products throughout the year 1929 to date. This accumulation, from present indications, gives promise of being the heaviest that has occurred in any year since 1923. It is apparent to all that production in the various producing areas of the country is now considerably in excess of consumption and threatens to become more so as we enter the six months of seasonal decline in consumption.

In view of these funamental facts, we again urge the producers to limit their drilling activity to absolute essentials and to avoid the drilling of any well, wildcat or otherwise, which is not absolutely necessary on account of lease expirations or other contract demands. The policy of restriction of drilling should be put into immediate effect and adhered to scrupulously for at least six months, or until April 1, 1930. In the case of any areas which must be drilled to avoid termination or lapse of leases, we urge that every possible effort be made to utilize or co-operatively develop the area, as distinguished from highly competitive

(Continued on Page 98)

Why Coat a



THE ST. LOUIS LINE

More than 325 miles of the St. Louis line, comprising 71% of the mileage coated, is being protected with *Bitumastic Enamel.* It is used throughout on the low, swampy sections and all other places where corrosive conditions are regarded as severe.

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Pipe Line?

A pipe line's earning power is largely determined by its years of usefulness. Corrosion increases the cost of maintaining it, interrupts the continuity of the service and shortens its life.

All unprotected pipe lines corrode, and in bad soils they corrode rapidly. The annual loss from pipe line corrosion is conservatively estimated at more than one hundred millions of dollars.

For more than forty years ***Bitumastic Enamel*** has established world's records for complete protection against corrosion of buried metal surfaces. When steel pipe lines first were laid it was thought that corrosion would not prove a serious factor. Experience, however, soon taught the need of a protective coating and experience naturally dictated the selection of a coating with a proven record. Thus ***Bitumastic Enamel*** was applied to this new field. The use of this coating has proven so effective that it has been chosen for most of the important natural gas pipe lines laid during recent years.

Bitumastic Enamel has not been used on ALL the large gas lines. But it has been used on MOST of them. And on such lines it has usually been chosen for the entire line—or failing this—at least for all sections where soil conditions are the most severe. It is significant that it is chosen for use where chances cannot be taken with unproven protection. Its use is constantly increasing because successful experience proves it pays to coat pipe lines with ***Bitumastic Enamel.***

Send for your copy of "The Protection of Oil and Gas Lines" now on the press. It will be full of vital and interesting facts concerning the causes of corrosion and the methods of combating them.

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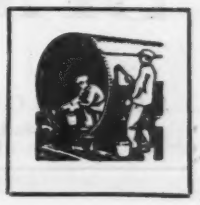

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Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry. Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

SOURCE AND PREPARATION STEARIC ACID

What is the main source of stearic acid and what is the process for making it?—S. L. R.

The source of stearic acid is the tallow that is obtained from the packing industry. The solid fat of the common animals such as hogs, sheep and the beef animals furnishing the main supply.

Stearic acid is separated from the tallow and purified by a series of operations in which the material is treated with acid and boiled under special conditions. A good description of the process may be found in the article by D. F. Cranor, Industrial and Engineering Chemistry, Volume 21, page 719, from which the abstract following has been prepared.

The impurities are first removed by cooking the grease for about one and a half hours with dilute sulphuric acid, after which saponification is carried out by Twitchell's reagent. Twitchell reagent contains sulph-benzene stearic acid which acts to cause a rapid separation of the glycerin and in larger quantities. It is customary to add small quantities of sulphuric acid from time to time during this stage.

After 18 to 20 hours' boiling, the glycerol liquor or sweet-water is run off, and fatty acids again boiled. If distilled stearin is being made, the acids are transferred to the copper lined stills and distilled in vacuo with superheated steam. Here a distillate containing about 50 per cent stearic acid is obtained, and a residue of stearin pitch is left in the still. For pressing, the fatty acid mixture is allowed to cool in pans, and the cake wrapped in cloth. This is pressed in hydraulic presses. Further quantities of oleic acid are subsequently removed by hot pressing. Each grade of stearic acid is boiled with sulphuric acid to improve the color.

Commercial stearic acid usually contains some palmitic acid and oleic acid. It is graded according to the method of manufacture, i.e., single pressed, 85 per cent stearic and 15 per cent oleic acids; double pressed, 90 per cent stearic and 10 per cent oileic acids, and triple pressed, 95 per cent stearic and 5 per cent oleic acids.

HYDROGEN SULPHIDE IN GAS FOR DOMESTIC USE

What is the maximum amount of hydrogen sulphide that natural gas can contain and still be used for domestic purposes? What is the best method of determining quantitatively the amount of hydrogen sulphide when the amount varies between 10 and 60 grains of sulphur per 100 cubic feet of gas?—D. E. W.

Any gas which is intended for domestic use should be almost free from hydrogen sulphide because of its toxic properties. It is considered a dangerous poison and very small quantities in a gas have been known to produce fatal results. Irritation and inflammation have resulted from breathing as little as 0.005 per cent and a concentration of 0.06 is considered high and dangerous. When manufacturing gas traces of hydrogen sulphide are frequently permitted to remain because of the odor it imparts to the gas and thus serves to give notice of a leak that otherwise might not be detected.

The quantity of hydrogen sulphide that may be permitted in a domestic gas is regulated by local and state laws. Several city governments have adopted 30 grains per 100 cubic feet for manufactured gas, or about 0.05 per cent by volume. There is no reason why these same limits should not be applied to natural gas. The New York State Commission prescribes that gas shall show no hydrogen sulphide by the lead acetate paper test.

The quantitative determination of hydrogen sulphide may be made by titration with iodine solution. This is usually made in some variety of the Bunte gas burette, a standard modification of which has been designed by Tutwiler. The essential steps are: The burette is filled with water containing starch, the sample of gas drawn in and quickly measured. Standardized iodine solution is admitted until the blue color persists after continued shaking. Knowing the value of the iodine solution, the percentage of hydrogen sulphide is readily obtained. The details of this apparatus and the procedure may be found in The Gas Chemists Handbook, third edition, page 462, etc. See also Circular 32, Bureau of Standards, and The Oil and Gas Journal, June 16, 1927, page 140.

Some natural gas contains organic sulphur compounds; these may be present with hydrogen sulphide but more frequently in the absence of hydrogen sulphide. These are included in the determination of total sulphur, the method for which is found in the Gas Chemists Handbook and in Circular 48, Bureau of Standards.

BENZINE AN UNFINISHED PRODUCT

Is there any specific petroleum product which should be known as benzine. I have heard the word used by refiners and have seen it in several books so would like to get a real definition of this product.—R. L. B.

There is no product that is obtained from petroleum which is called benzine by those who are familiar with the industry. The Government has listed numerous products in their specifications but I have failed to find any mention of benzine and its properties.

The word was formerly used to indicate a product similar to what we now designate gasoline. There is also the practice in some refineries to use this word in a similar way to what naphtha is used in others; that is the collection of distillates of the gasoline type which are in process of refining. This use of the word is strictly a local practice and has no other standing in the United States.

You may have in mind the reference in Petroleum Technology, by Gurwitch-Moore, page 416, in which this substance is defined: "Those petroleum products which boil up to about 150 to 180 degrees Centigrade are usually designated by the generic name of benzines. In dividing this group into separate numbers it is usual to make use of the boiling temperatures, or, more strictly speaking, the boiling limits. The lowest boiling benzines, the so-called cymogenes and rhigolines, which are used for the production of low temperatures, for example, for anestheticising in surgery and in the manufacture of ice, have an initial boiling point from zero up to room temperature.

"Benzines with the lowest boiling points are also used for the production of the so-called 'gasoline gas, aerogene gas, etc.,' which consist of a mixture of benzine vapor with air, and are used as substitutes for ordinary illuminating gas."

There are further details in this reference but the part quoted will serve to prove that benezine is used here in the same way that has been above mentioned. That is, it is an indefinite collection of the lighter distillates obtained from petroleum and which today are quite uniformly known as the different grades of gasoline.

PENETRATING OIL RUST INHIBITOR AND LUBRICATING OIL

Could you advise me where to obtain formulas for penetrating oil used on auto springs and to remove rust, also formula for the fine oil used in upper cylinder lubrication on automobiles?—P. J. K.

Reliable specifications for the various petroleum products may be found in Technical Paper 323B of the Bureau of Mines.

Penetrating oil is a special blend usually containing some volatile product and a small quantity of lubricating oil. The volatile product may be something like kerosene and gasoline or one of the alcohols. The principle involved is that the volatile liquid is a low viscosity product but has a high capillary value so that it will tend to creep between the leaves of a spring and then evaporate, leaving the lubricating oil as a residue.

Some of the penetrating oils are not blends of this character but are pure lubricating oils of low viscosity, such as 80/100 at 100 degrees Fahrenheit, containing a very small quantity of a low melting point grease.

The best known rust inhibitor is chromium, small quantities of the chromium salt being incorporated with the grease or oil.

BLENDING GASOLINE

I have noted your reply to W. J. G. in the August 22 issue and wish to submit a simple formula for such blending.—K. K.

If it is desired to mix up 1,000 gallons of 62 gravity gasoline from 85 gravity and 48 gravity stocks the following is the outline of the calculation:

$$\frac{(62-48)\times 1{,}000}{85-48} = 378.3 \text{ gal. of the 85 gr.}$$

$$\frac{(85-62)\times 1{,}000}{85-48} = 621.7 \text{ gal. of the 48 gr.}$$

TREATING GASOLINE FROM WINKLER CRUDE

Do you have any information covering the treatment of gasoline from Winkler County, Texas, crude? What is the knock value of this gasoline?—A. R. N.

The writer published some information about Winkler crude and the details of refining, in an article, "Refining Value of Hendricks Crude," in The Oil and Gas Journal, March 7, 1929. Experiments were reported in which several methods for treating the gasoline were described.

A fraction representing the heavy naphtha was separated and treated. The gravity of the naphtha was 48.2, initial 106 degrees Fahrenheit, endpoint 510 degrees Fahrenheit, and contained 0.241 per cent total sulphur. The treatment is indicated as follows: Water acid one-half pound per barrel, blown for 10 minutes, body acid 2 pounds per barrel blown for two hours, final body acid 3 pounds per barrel circulated for three hours. The sweetening consisted in circulating for about six hours with 13.2 Baume doctor solution containing 2.68 per cent litharge. The oil was not broken out with sulphur. The oil was blown with air. Loss in treating 7.7 per cent. Gravity after treatment 47.1. Approximately 60 per cent gasoline was taken off by distillation and this had a gravity of 52.6 and contained total sulphur 0.061 per cent. The color was 30 Saybolt, initial 162, and endpoint 428 degrees Fahrenheit.

The ordinary treatment when applied to the raw gasoline, obtained from the crude oil, did not give satisfactory results when judged by the sulphur, gum and corrosion tests, but when treated with acid an excellent product was obtained.

The treatment of the unfinished gasoline included 1 gallon of 13 Baume caustic soda per barrel, 6 pounds of acid, and 1¾ gallons of doctor solution with 50 pounds of sulphur. The raw product, treated gasoline and the blend with 25 per cent natural gasoline tested as shown in the table below:

STRAIGHTRUN GASOLINE

	Raw—Yield 25% from crude	Finished	Blended with 25% natural
Gravity A.P.I.	53.9	53.6	59.7
Initial °F.	132	153	94
Endpoint	412	414	410
Color, Saybolt	22	30	30
Sulphur, per cent	0.16	0.048	0.030
Corrosion	bad	pass	pass
Gum	...	8 mg.	5 mg.
Knock rating	...	17% benzol	31% benzol

The heavy gas oil, representing 31.3 per cent of the crude oil, was blended with hydrated lime, 1½ pounds to the barrel, and cracked under a pressure of 150 to 160 pounds at 780 to 820 degrees Fahrenheit. A yield of 60 per cent pressure distillate was obtained, which had a gravity of 46.6; color clear yellow; and contained 58 per cent gasoline cut at 410 degrees Fahrenheit. This was treated with acid, 6 pounds to the barrel; rerun, and the overhead sweetened with 1½ gallons of 13 degrees doctor and 15 pounds of sulphur to the barrel. The finished gasoline tested as follows:

CRACKED GASOLINE

Gravity	54.1
Initial	126°
Endpoint	418°
Corrosion	pass
Color	24
Sulphur	0.104
Gum	10 mg.
Knock rating	35% benzol

When the cracked gasoline was blended with 25 per cent natural gasoline the knock rating was increased to 38 per cent benzol equivalent.

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

HOW FIGURES WERE OBTAINED

The United States Bureau of Standards uses two formulas in changing Baume readings to specific gravity readings and specific gravity readings to Baume, as follows:

$$\text{Specific gravity at 60 degrees Fahrenheit} = \frac{140}{130 \text{ plus Baume reading}}$$

$$\text{Deg's Baume} = \frac{140}{\text{Sp. gr. at } 60^\circ \text{ F.}} - 130.$$

Will you please tell me through the columns of your Field Problems page how and why the figures 130 and 140 as used in the formulas were arrived at?—M. J. S.

The figures 130 and 140 were arrived at by manufacturers of hydrometers and are called moduli. (A modulus, you understand, is a real positive quantity, numerical or physical, expressing the measure of some function, property or effect, as of strength, elasticity, efficiency, etc., especially under unit conditions). The figures had to do with the Baume scale for liquids lighter than water and the exact method of arriving at these values is not known to this department. The figures might vary for different type hydrometers and each manufacturer originates his own formula.

The Bureau of Standards at Washington has tested hydrometers since 1904 and has found variation in the values of these figures. It determined upon 131.5 and 141.5 instead of 130 and 140 as those moduli were more nearly correct for petroleum than those established by Baume and others. It is understood that the process of arriving at these figures involves laboratory work and the use of various mathematical formulas. It might be that you could obtain information as to this process by addressing the Bureau of Standards at Washington, D. C. You, of course, know that the Baume scale no longer is used in the petroleum industry for ascertaining the specific gravity of oils, the A.P.I. standard being used in its place.

TROUBLE IN CLEANING OUT

We are having trouble in getting a well cleaned out in order to abandon it. The particular problem that is facing us is this: Caving coming into the hole will not mix with water and consequently the bailer will not bring out the sediment. We have tried using the tools to mix the cavings, but by the time the tools are pulled out and the bailer lowered all we get out is slightly colored water. We have been at work for two weeks on this well and cannot get below this point. Will you please give us some method of procedure?—H. C. I.

Your problem has been taken up with a driller who has had experience with caving ground in West Virginia and other eastern fields as well as in the Mid-Continent area, and he has suggestions to offer.

Your letter does not state the character of the formation in which this cave occurs, but it is assumed that it is shale. Nor do you state the kind of a rig used for the clean-out work, which would have helped in dealing with the case.

As you say you experience trouble in getting back into the hole quickly enough with the bailer to clean it is assumed that you are running the tools and the bailer into and out of the hole rapidly. This in itself is enough to cause trouble, for in ground of this character it requires little disturbance to cause further cavings.

It is suggested that the tools be run into the hole very slowly when the caving formation is reached and that the line clamps be hooked on to the line just as soon as the tools touch the material in the hole.

Under ordinary drilling practice the flag would be tied to the line at the top of the casing when the tools are to be pulled out of the hole, and when they are run in again it would be expected that the tools should go back to the place where they were when pulled out, and therefore the driller would hook on at the point indicated by the flag.

It is quite possible that when the tools are pulled the suction caused by lifting them quickly causes more cavings and therefore when they run back again they will not go as far below the top of the casing as they did on the previous run in. Therefore the flag should be disregarded in hitching on to the line and in this way too much line will not be run into the hole. This extra line would cause the lower end to whip in the hole and loosen more of the caving material.

If the bailer is run in rapidly it also would cause suction or disturbance in the hole, causing more caving and these cavings would settle quickly with the result that you could bail little more than dirty water.

You will realize that working in this kind of formation it will continue to slide into the hole until the angle of repose is reached at which the formation is again stable. It follows that much care must be taken to run into and come out of this area with great caution. Even too long a drilling stroke will tend to splash the water against the walls of the hole and wash down more cavings.

The driller must be careful at all times to drill on top of the cavings in the hole and not try to drill into them too far, for if they cave while he is in with the tools it will have the effect of making more loose ground and if the tools are moved up and down in this loose material it will bring down additional material.

This is something that cannot be hurried, for caving is likely to continue until the slipping formation comes to rest at the angle of repose which nature alone will establish. Your drillers must use every precaution to create the least disturbance possible at the bottom of the hole and use care and take time rather than try to fight this cave by using haste and by sudden movements.

If it is found that the methods advised do not bring results within two or three weeks, it might be possible that you will have to run another string of casing into the hole, this to be equipped with a casing shoe and lowered into the cavings as far as possible. Work will continue through this casing which will be lowered still farther as the cavings are removed. This method of working through the extra string of casing can be continued until the oil sand is reached, which should not be difficult to clean and plug, and the casing can then be pulled.

WHY WAS IT CALLED THAT?

YELLOW DOG

This is the field name for a derrick lamp, a vessel made of tin or light iron with two spouts into which wicks of cotton are inserted and as they absorb oil from the body of the lamp they give off a very yellow light, hence the name "yellow dog."

QUESTIONS ABOUT SHOOTING

Would there be any difference in the results obtained by shooting a well with 75 per cent strength dynamite or nitroglycerin? What does a quart of nitroglycerin weigh? Can you get better results by shooting the whole length of the oil sand or by shooting just the middle? These questions apply to shallow well drilling, with sand running from 10 to 30 feet.—J. H. M.

It is suggested that you obtain a copy of a paper by C. O. Rison on "Manufacture of Nitroglycerin and Use of High Explosives in Oil and Gas Wells." You will find there answers to your questions and much other information of value. The paper was presented before the February meeting of the A.I.M.E. in New York. It is complete and devoid of technical detail. You can get a copy by sending 35 cents to Mr. Rison, care Indian Territory Illuminating Oil Co., Bartlesville, Okla., or to the American Institute of Mining and Metallurgical Engineers, 29 West Thirty-ninth Street, New York.

BOOKS ON GAS-AIR LIFT

Can you give me the titles of any books pertaining to the repressuring of oil wells and to the air and gas lift, together with the addresses of the publishers?—M. J. S.

Recent bibliographies covering these subjects, issued by the Technical Department of the Tulsa Library, have been mailed to you. Spon & Chamberlin, 120 Liberty Street, New York, publish a handy gas-air lift handbook written by Robert Stirling. The price of it is $2.

FOOLING THE INVESTOR

Some time ago I was asked to invest in an oil lease in Pecos County, Texas, and one of the arguments I brought up against buying was one you probably have heard before and it is this: I have heard that unscrupulous drillers for oil would often bring in a well and find it a good producer and then for selfish reasons would plug it up and tell the investors it was a dry hole. After the disappointment had somewhat died down they would reopen the well and reap the benefit themselves.

The answer to this objection was that when a well was being drilled the driller was obliged to furnish the Government with specimens of the formations penetrated and that the Government watched these operations and should oil be brought in they saw to it that the closing of the well could not take place. Would you be kind enough to tell me if this is correct and also give any information that would be helpful to the uninformed investor?—F. H. M.

Although your question may not be regarded as coming under the head of field problems, it probably touches a point of sufficient general interest to the readers of this page to justify its inclusion here.

When a well is to be drilled in an oil-producing state it is necessary to file certain information with a department designated by an act of legislature and later it is necessary to file a log of the well, that is a record of the different formations penetrated. If the well is reported as dry it is necessary to plug the hole in a manner prescribed by law.

In addition to all this every well is watched closely by men known as "scouts" who are employed by producing companies to keep track of all work being done in every part of the country and these men would report any illegal methods for usually major companies are interested in land in the neighborhood of a test well and anxious to know what is found.

Your suggestion that the driller might drill into an oil sand and then plug the well and later open it, is hardly tenable. If this lease you have in mind is in Pecos County, Texas, in a producing area it is quite possible that to plug back any well that might be opened would be a difficult job and once killed it would be equally hard for the driller to go back and open the well a second time.

You are not advised to invest promiscuously in oil stock offered for sale for the vast majority of such stocks never return the investor his original investment. This is no criticism of the oil industry but of individuals who hang around the edges of it and try to induce people without knowledge of the business to invest their money in ventures that they either cannot or do not want to finance themselves.

As in every other business there are always men who endeavor to get the other fellow's money for their enterprises and it is well to investigate carefully before investing in these schemes. There are plenty of reliable companies whose stocks pay returns.

As you may know, one of the world's largest wells has been opened recently in Pecos County. It flowed at the rate of over 210,000 bbls. of oil daily. But note this: Every foot of land that is on the structure upon which this well is located is leased to large oil companies, so for any new company to use this well as a reason for investing in its property is about as logical as it would be to ask you to buy stock in a company owning land near the north pole, for the structure under the ground and not the land above the oil-producing horizon determines the amount of oil to be obtained.

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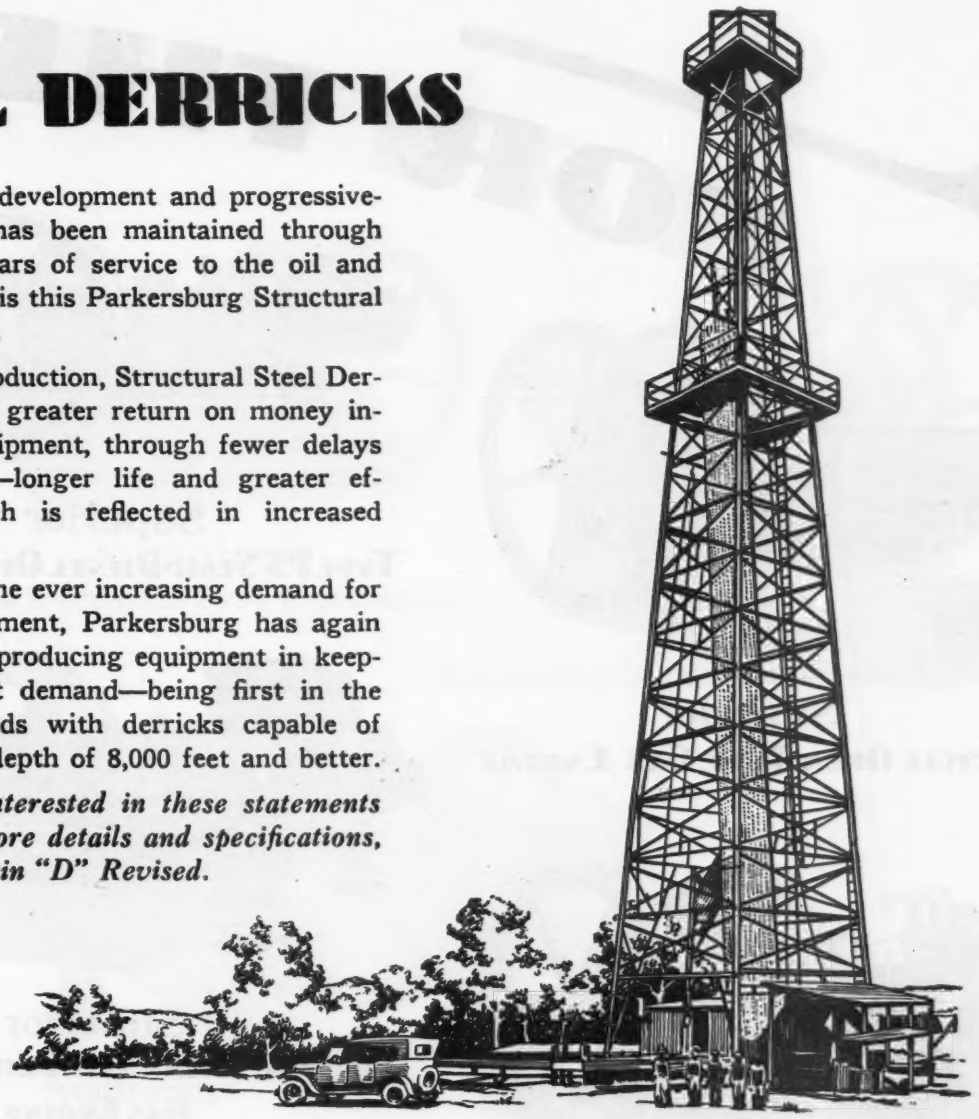
If you are interested in these statements and desire more details and specifications, ask for Bulletin "D" Revised.



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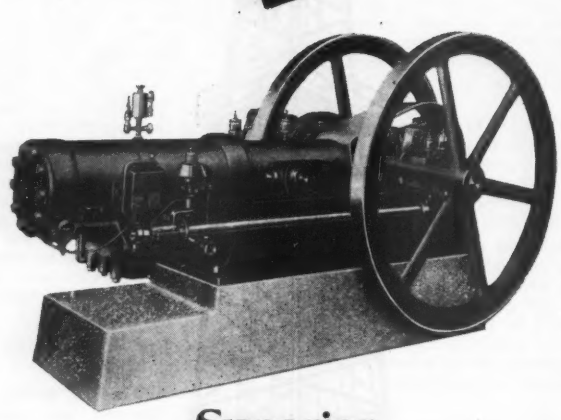

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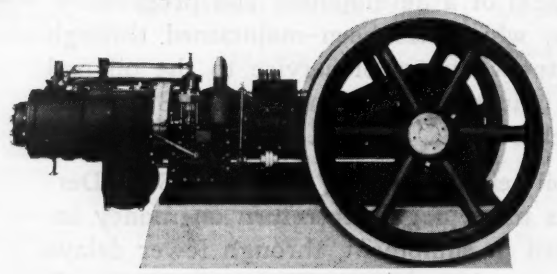

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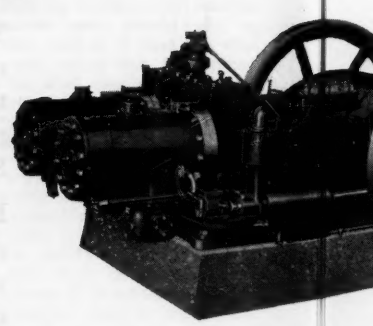

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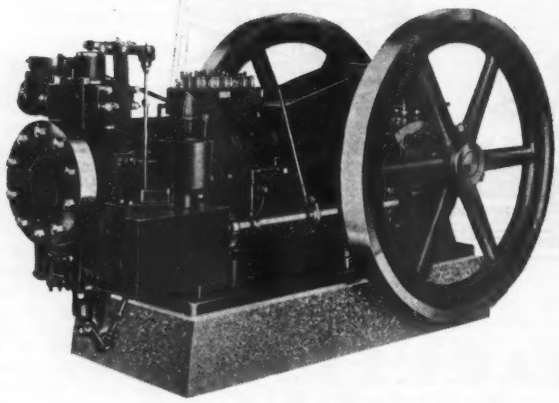

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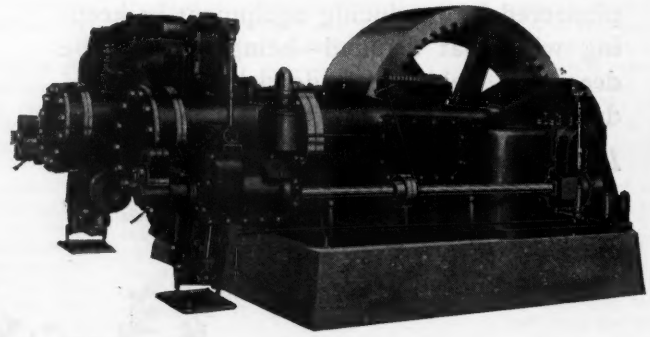

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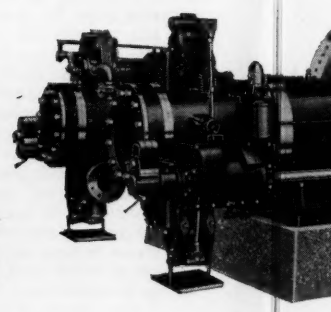

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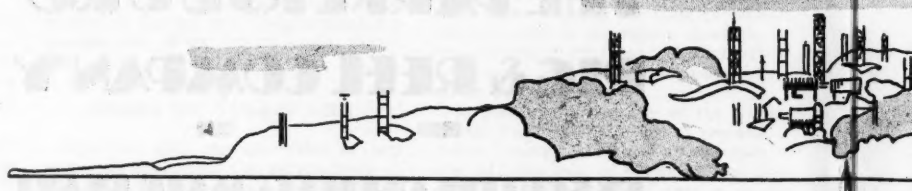

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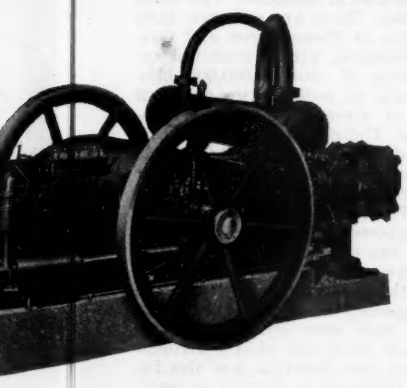

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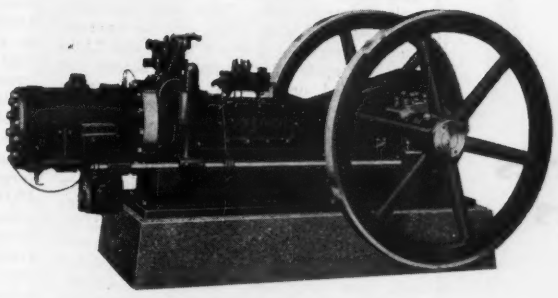

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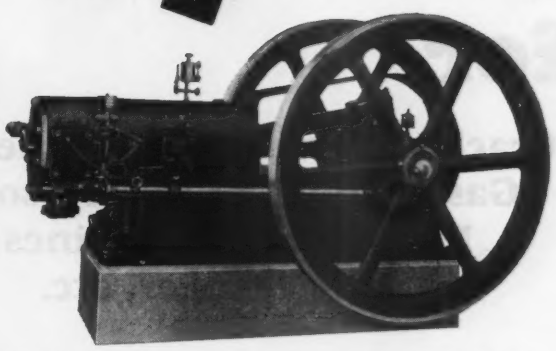

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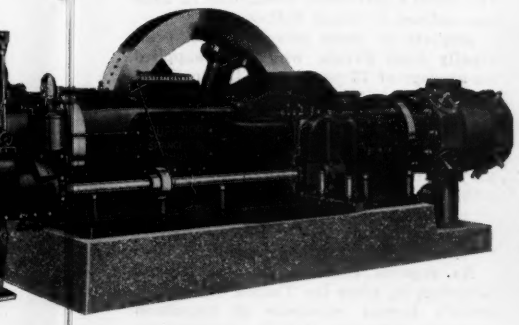

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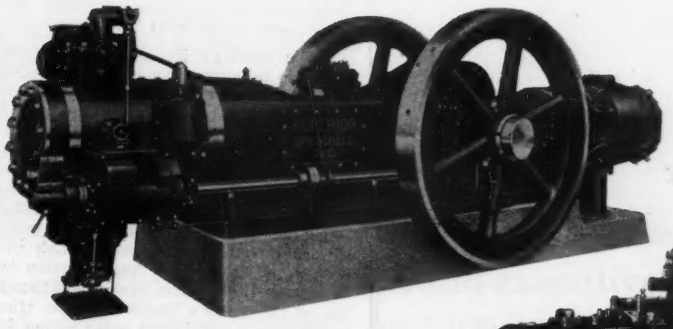

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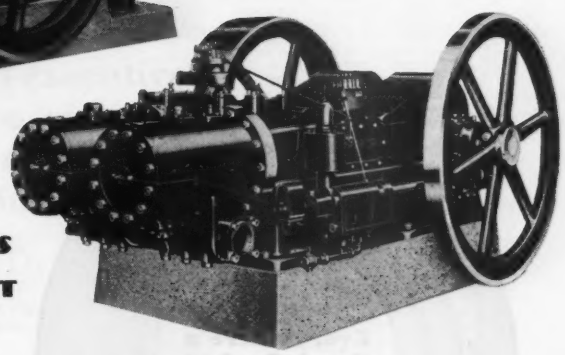

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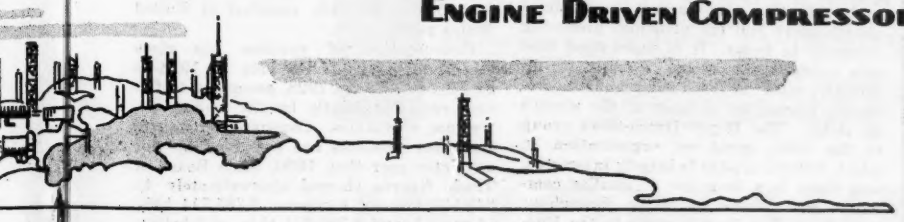

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BRITISH PETROLEUM TRADE GROWING, AMERICANS SHOULD CONTINUE SHARE

By Homer S. Fox
Foreign Trade Commissioner, United States Department of Commerce*

There are several features of considerable interest in connection with Great Britain's position in the production, refining and consumption of petroleum and its products. The United Kingdom is, outside of the United States, the world's largest user of petroleum products, and the major portion of its supply comes from this country. In the second place, the United Kingdom is probably also the most important factor, again excluding the United States, in the marketing of crude petroleum, although the actual output within the country itself is negligible. Largely because of this lack of domestic oil supplies, the country is actively engaged in fostering the production of alternate materials, such as alcohol motor fuels, oil from coal, etc.

With the upward trend in business conditions, oil consumption in Great Britain may reasonably be expected to increase. As regards petroleum production, Great Britain itself has at present only one commercially producing well, that at Hardstoft, Derbyshire, which operates only intermittently. This well has been in production since 1918, with an average annual output of between 2,000 and 3,000 bbls. In spite of a systematic search for oil, carried on over a period of years and financed in part by the government, nothing more than showings of oil have been found elsewhere in the country. The principal domestic source of oil has been the Scottish shale deposits, which have been operating for many years. The quantity of shale mined rose to over 3,000,000 long tons per year in 1913 and 1914, and again in 1916-17-18, but in recent years has been very much below this figure. The average annual output of crude shale oil during the past five years has amounted to about 1,340,000 bbls. The industry is much less active than formerly, due largely to the working out of the richest deposits and also to the fact that the prevailing low prices for natural petroleum has made competition more difficult. There is also some production of liquid fuel (chiefly benzol) from coal, and this field promises to be developed much more intensively in the next few years.

Great Britain's importance as a factor in world petroleum production, therefore, does not arise from the extent of its own oil deposits, or even from those in the colonies and dominions, although production in the latter is extensive, but rather through commercial and financial ramifications of British petroleum companies, which have control of extensive production and resources throughout the world. The most important purely British concern is, of course, the Anglo-Persian Oil Company, Ltd., which has in addition to one of the world's finest oil fields (that in Persia) a world-wide organization for the production, refining and marketing of oil and oil products. The British government holds a majority stock interest in this company although it does not interfere in the ordinary commercial activities of the company. Closely associated with the Anglo-Persian is the Burmah Oil Co. (its largest commercial shareholder) and the principal producing company in India. It is understood that this group is associated, directly or indirectly, with oil producing and/or producing companies in most of the world's oil fields. The Royal Dutch-Shell group is the other great oil organization in which British capital is largely interested, and there is a long list of smaller companies and groups operating throughout the world. The British stake in the Russian oil industry is a large one, but the ultimate disposition of these holdings is apparently still in doubt. One of the most interesting recent developments in this connection has been the increasingly close co-operation between the Burmah-Anglo-Persian and Royal Dutch-Shell.

While there is only a comparatively negligible output of crude petroleum in the United Kingdom, a considerable refining industry has been developed mainly since 1921 when the Anglo-Persian Oil Co.'s refinery at Llandarch near Swansea, South Wales, the largest in the country, was established. At the present time there are understood to be 10 principal refineries in operation capable of refining crude petroleum, with a total estimated capacity of approximately 33,000,000 bbls. per year, nearly half of which (about 15,000,000 bbls. per year) is represented by the Llandarcy refinery. Several other small plants have an aggregate total capacity of perhaps 500,000 bbls. per year, and there are a number of cracking installations, both independent and operated in connection with crude oil refineries. There are also two shale oil refineries at Pumpherston and Oakbank, in Scotland, with a combined annual capacity of about 1,000,000 bbls. These plants, as well as two crude oil refineries at Grangemouth, near Edinburgh, and Uphall, Scotland, are controlled by the Anglo-Persian Oil Co., Ltd., so that this company controls well over half of the total refining capacity of the country. The total quantity of crude petroleum imported during the five years 1924-1928 has averaged some 15,600,000 bbls. per year representing a little less than half the total refining capacity. The largest importation was in 1927 when 19,000,000 bbls. were received. Certain quantities of other oils, chiefly kerosene from Russia and Rumania, are also imported for treatment by refining or cracking. The total quantities of oil actually refined during 1925 and 1926, the only years for which data are available, were as follows: Petroleum, 17,088,286 U. S. bbls.; shale oil, 1,434,571 bbls.; 1926—petroleum, 16,469,143 bbls.; shale oil, 1,138,857 bbls. About 1½ per cent of the world's petroleum production in 1926 was refined in Great Britain.

Imports of crude petroleum are principally from Persia, which has supplied an average of 75 per cent of the total imported during the past five years. Other principal sources are Venezuela, Mexico, Colombia and the United States. The Persian oil is refined chiefly at the Llandarcy plant of the Anglo-Persian Oil Co., although in recent years increasing quantities have been refined at the company's refineries in Scotland.

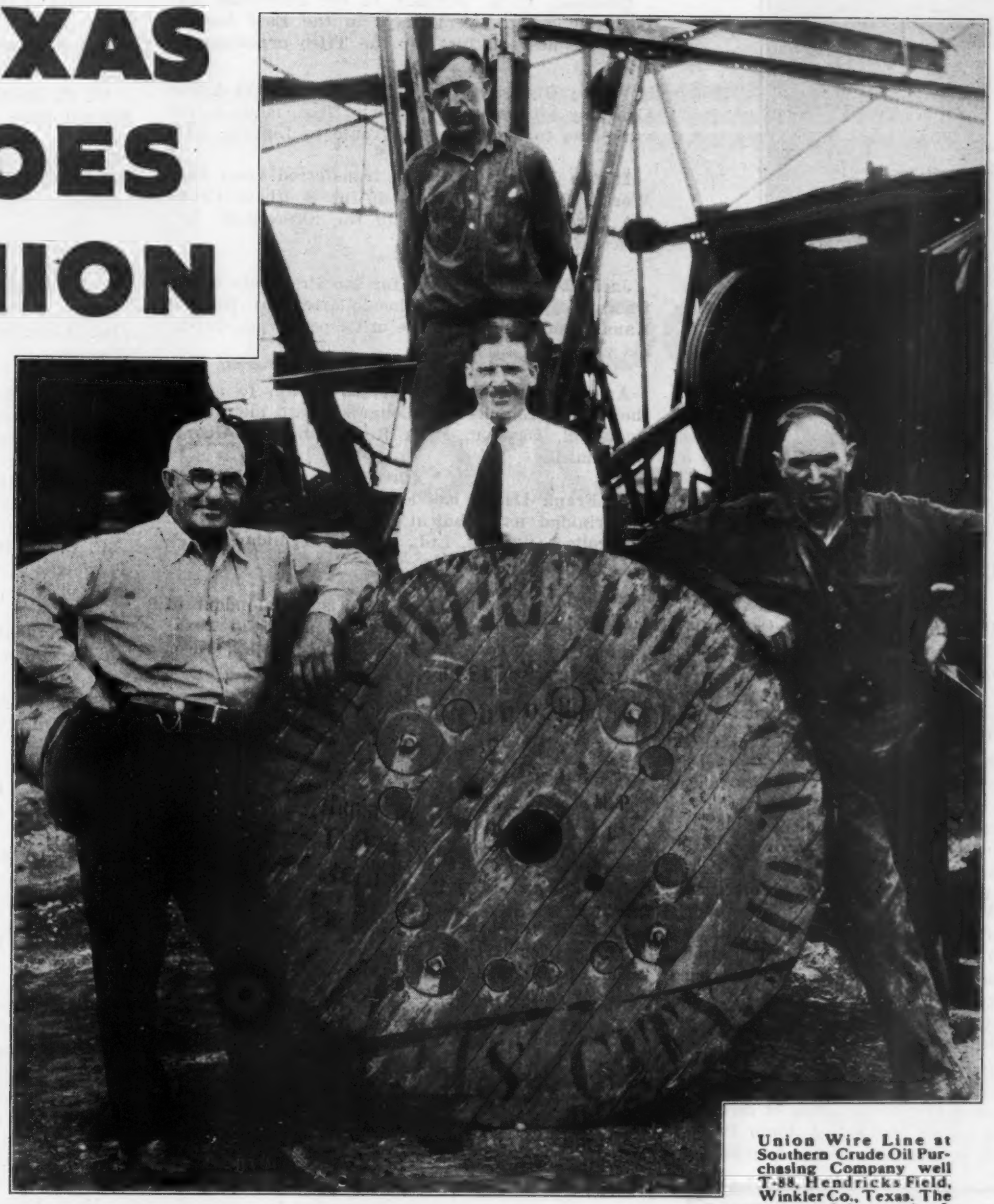
Figures in Consumption

As regards consumption, the United Kingdom is, after the United States, the world's largest consumer of petroleum products although British requirements are only about 7 or 8 per cent of the American demand. Total indicated domestic consumption of liquid petroleum products in Great Britain and northern Ireland in 1928 was approximately 50,000,000 bbls., equivalent to a little over 4 per cent of the total world production of crude petroleum in that year. Some 6,600,000 bbls. of bunker fuel oil were also supplied at British ports to vessels engaged in foreign trade, as compared with 51,000,000 bbls. supplied at United States ports.

Consumption of gasoline has risen steadily from 2,937,648 bbls. in 1913 to 24,270,568 bbls. in 1928, according to figures compiled jointly by the leading petroleum companies. Consumption figures for other products are not available for any later year than 1926, when Board of Trade figures showed approximately 4,648,857 bbls. of kerosene, 2,785,714 bbls. of gas oil, and 2,309,524 bbls. of lubricating oil used within the country. The consumption of gasoline is naturally increasing more rapidly than that of other products, as the number of automobiles and airplanes grows, but the total consumption of all products shows a substantial annual increase, on the average, and the United States should continue to share in this growth, if her own sources of supply remain adequate.

*Before annual meeting Mid-Continent Oil & Gas Association at Tulsa October 9, 1929.

TEXAS GOES UNION



Union Wire Line at Southern Crude Oil Purchasing Company well T-88, Hendricks Field, Winkler Co., Texas. The men are, left to right: J. E. Ribb, Drilling Sup't; Al Marvin, Tooldresser; H. G. Alston, Representative Union Wire Rope Corp.; O. C. Robinson, Driller.

In Texas, too, experienced field men and executives have noticed the outstanding service given by UNION Wire Lines—and more and more Texas operators are standardizing on these lines.

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TRADE MARK

UNION WIRE LINES

MEN KNOWN IN OILDOM

C. A. Campbell

When he got out of school C. A. Campbell started to work for the Mexican Seaboard Oil Company, and he has been with that company ever since. Mr. Campbell is now manager and executive in charge of all operations of the Milham Corporation of Texas, a Mexican Seaboard subsidiary organized to operate in Texas.

Mr. Campbell's first work was in Mexico with the International Petroleum Company at Tampico, Tamps, where he was chief clerk and in the engineering department till 1921, when he was placed in charge of construction, his school training having been in engineering. He was with the International Petroleum till 1923, when he was transferred to the Compania Mexicana de Terrenos y Petrole in Tobasco as chief engineer in charge of construction and continued in that position till the latter part of 1925. In that year the Milham Corporation of Texas was organized and Mr. Campbell was made manager of the company. Main offices were opened in San Antonio and he took up his residence there.

Mr. Campbell is a native of Dallas, Tex. Among the honors placed upon him is the office of director and secretary-treasurer of the San Antonio Petroleum Club of which he was one of the organizers.

PERSONAL PARAGRAPHS

A. C. Veatch is en route to Africa.

* * *

E. L. DeGolyer is visiting in Europe.

* * *

Guy C. Riddell has returned to New York from Venezuela and Mexico.

* * *

Roswell H. Johnson, of the University of Pittsburgh, Pa., spent the summer in the Baku fields.

* * *

A. Beeby Thompson has returned to London after a tour of inspection of Germany's present and prospective oil-producing regions.

* * *

W. L. Hutcheson, of the Wichita Gas Company, has resigned and taken a position with the Columbus Gas Company at Columbus, Ohio.

* * *

Stuart G. Lyon, president of Weber, Lyon & Company, Inc., has been elected a member of the board of directors of the Root Refineries, Inc.

* * *

O. E. Garretson, secretary of the Prairie Oil & Gas Company of Wyoming with headquarters at Parco, recently spent several days in Casper.

Carl G. Cromwell and K. D. Harrison, independent oil operators of San Angelo, Tex., flew to Tulsa in Mr. Cromwell's Lockheed-Vega monoplane.

* * *

A. L. Bloomingdale is now in charge of the Shaffer Oil & Refining Company's "Deep Rock" offices in Omaha, Neb., in place of S. W. Callahan, resigned.

* * *

President E. A. Durham, of the Petroleum Exportation spent several days in the East looking after business matters for the Trico organization.

* * *

Wesley Gish, in charge of the Sinclair Oil & Gas Company offices at Fort Worth, Tex., made a trip via plane to Tulsa, and en route to Lincoln, Neb.

* * *

Morrie Walters has been transferred from Fort Worth, Tex., headquarters of the Southern Crude Oil Purchasing Company, to the Shreveport, La., offices.

* * *

Jack Hough, lease man for the Producers & Refiners Corporation with headquarters at Russell, Kans., visited his old home in Casper, Wyo., during his vacation.

* * *

Among those going to Tokyo, Japan, to attend the World Engineering Congress next month are George S. Davison, Mark Requa and Dr. George Otis Smith.

* * *

A. Frank Dabell has left London on his return to Trinidad as technical manager of the British Controlled Oilfields, Ltd., and the Trinidad Development Company.

* * *

L. J. Daly, of Denver, Colo., superintendent of operations for the western division of the Texas Production Company, visited in the Casper, Wyo., offices last week.

* * *

H. T. Falls, of the Mount Vernon, Ohio, offices of the Cooper-Bessemer Corporation, is spending a month in the Mid-Continent territory in the interests of his firm.

* * *

Frederick G. Clapp, consulting petroleum engineer of 59 Church Street, New York City, has announced his new European address as No. 28 Rue Pouissin, Paris XVIth.

* * *

C. L. Murphy, of the Smith Separator Company, at Shreveport, La., for the past several years, has been transferred to Oklahoma City to take care of business in that field.

* * *

Frank E. Spencer, president of the Spencer Petroleum Company, Chicago, and R. D. Rankin in charge of the company's Kansas City office, visited refinery friends at Tulsa last week.

* * *

A. W. Peake, president of the Dixie Oil Company, has moved his family and offices from Shreveport, La., to Tulsa, anticipating the transfer of the company's headquarters about November 1.

* * *

A. F. Brann and D. D. Thomas, drilling contractors, and Maurice T. Grubb, geologist, have opened offices on the third floor of the San Angelo National Bank Building, San Angelo, Tex.

* * *

Valice Foster, of the Gulf Production Company's geological department in the Wichita Falls zone, has left for Maracaibo, Venezuela, where he has accepted a position with the Venezuela-Gulf Company.

* * *

Senor H. Valdes, Mexican counsel, stationed at Oklahoma City, Okla., delivered the address of welcome for the foreign delegates to the International Petroleum Exposition when they gathered in session at Tulsa October 10.

* * *

J. W. Steele, supervisor of the mineral leasing division, United States Geological Survey, has been in Salt Lake City and New Mexico. Herman Stabler, chief of the conservation division of the survey, is accompanying Mr. Steele.

* * *

Glenn Dunmier, district manager for the Parkersburg Rig & Reel Company, at Shreveport, La., has been transferred to the Houston headquarters, and D. R. Miller of the El Dorado, Ark., store has been sent back to Shreveport.

H. C. George has returned to the University of Oklahoma after a three months' tour of the fields in Texas, Louisiana, Arkansas, New Mexico, Oklahoma, Kansas, Colorado, Montana and Wyoming for the United States Bureau of Mines.

* * *

V. E. Cottingham, of the firm of Cottingham and Briscoe, consulting geologists, San Angelo, Tex., and president of the West Texas Geological Society, has returned from a month's stay in New York City where he transacted business for his firm.

* * *

W. F. Simrall, of Cincinnati, Ohio, head of the Simrall Pipe Line Corporation, visited Muskegon, Mich., to inspect the operations of his company in the Muskegon oil field, where G. F. Beckler of Sarasota, Fla., is in charge of the company's operations.

* * *

Russell Conkling, geologist for the Shell Petroleum Corporation, San Angelo, Tex., and family, have recently returned from a vacation trip to Norman, Okla., where they visited in the home of Mrs. Conkling's parents, Mr. and Mrs. C. M. Roselier.

* * *

Mr. and Mrs. W. R. Finney, formerly of Casper, Wyo., have established a residence in Bronxville, N. Y. Mr. Finney was formerly head of the gas department for the Midwest Refining Company, and is now associated with the Pan American Petroleum & Transport Company.

* * *

C. C. Fredricks, director of sales for the Pierce Petroleum Corporation, and A. J. Gutweiller, manager of sales promotion, of St. Louis, Mo., and J. L. Edmonds, manager of the Arkansas-Louisiana division, visited Shreveport, La., in the course of an inspection of all Pierce agencies.

* * *

L. S. Winter, with the land department of the Atlantic Oil Producing Company, recently at Corsicana, Tex., has been transferred to the San Angelo district and for the present will operate out of Menard. He is a brother of N. B. Winter of the Atlantic geological staff at San Angelo.

* * *

Mr. and Mrs. W. E. V. Abraham, of Nyaunghla, Upper Burmah, announce the birth of a daughter. Mr. Abraham, who is connected with the Burmah Oil Company, and Mrs. Abraham, then Miss Sue Bidwell of Tulsa, became acquainted during his visit to the International Petroleum Exposition a year ago.

* * *

C. O. DeVerse, district superintendent of the Indian Territory Illuminating Oil Company in the Seminole Field, has been made assistant to W. P. Sutton, production superintendent for southern Oklahoma, and John Lawry, farm boss at Oklahoma City, has been sent to Seminole to succeed Mr. DeVerse.

* * *

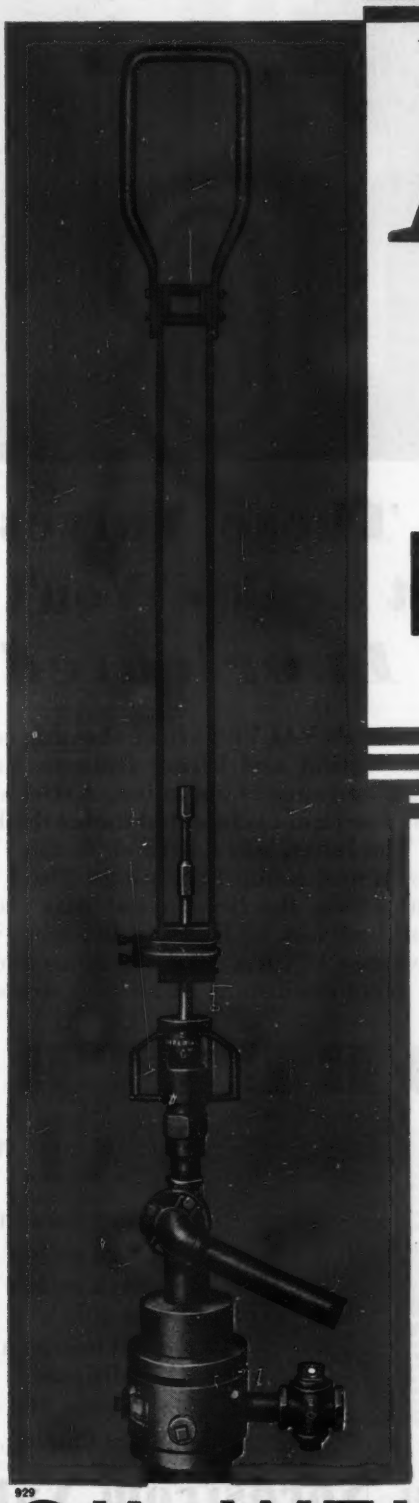
M. F. Peters has succeeded H. J. Boisdorf as district manager of the West Texas Gas Company, with headquarters at Midland, Tex. This organization is supplying 15 Panhandle and West Texas towns with natural gas from fields in the Panhandle. Mr. Peters was formerly connected with the Prairie Oil & Gas Company at Eastland, Tex. Mr. Boisdorf is taking charge of the Public Service Corporation as general superintendent.

* * *

Prof. R. C. Beckstrom, dean of the engineering school of the University of Tulsa, together with his wife and daughter, is leaving for a trip through the Russian oil fields, October 12, and will sail from New York October 16, on the Mauretania, to be away about three months. Professor Beckstrom makes this trip as a guest of the Soviet government for the purpose of consulting with their engineers on various engineering problems.

* * *

Carl Morrison has been appointed by the Johnson Oil Refining Company as manager of its production in the Muskegon Field. He was formerly connected with the Indian Refining Company, at Lawrenceville, Ind., as superintendent of production. Noah Zark, who has been in charge of its interests at Muskegon, who was withdrawn from Oklahoma when the Johnson interests became active in the Michigan Field, will return to Bartlesville in charge of the Johnson interests in that vicinity.



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Smooth, steady performance is assured by this "Oilwell" Pumping Installation. Each unit is sturdy, compact, and designed for highest efficiency and greatest safety in operation. Easy handling and easy adjusting. Continuous and reliable pumping service under all working conditions.

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NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

$500
FOR A SLOGAN
(19 Cash Prizes)
Write a Slogan about Nordstrom Valves

The manufacturers of Nordstrom Valves seek a new slogan pertaining to these valves...a slogan that will suggest the service or function, features or advantages...or some easily remembered phrase that will identify the excellence of Nordstrom Valve service. ¶ The slogan..."**Won't leak...Won't Stick**"...is now used, but there are so many outstanding features of Nordstrom Valves with which you are familiar that surely you can think of several good slogans. Your plant engineer may have some suggestions to offer too! ¶ If desired we will send a catalogue describing the various features of Nordstrom Valves which may give you a clue to a master slogan. ¶ You have 19 good chances to win a cash prize. "Think up" a slogan now. Send it in. Send us more slogans as they occur to you. But start now!

CASH AWARDS

First Prize . .	$250.00
Second Prize . .	100.00
Third Prize . .	50.00
4 Prizes, each . .	10.00
12 Prizes, each . .	5.00
TOTAL 19 CASH PRIZES	$500.00

RULES of Slogan Contest

...Anyone is eligible except employees of Merco Nordstrom Valve Co. or affiliated companies.

Slogan must not exceed 10 words. Any number of slogans may be submitted by same person. Use coupon below or separate sheet of paper. Contest closes December 31, 1929.

JUDGES

The judges will consist of one official of the Merco Nordstrom Valve Company, one representative of a well known trade publication organization and one advertising counsellor.

FILL IN THIS ENTRY BLANK AND MAIL

MERCO NORDSTROM VALVE CO.,
343 Sansome St., San Francisco, Calif.

I submit the following slogan(s) pertaining to Nordstrom Valves:

_____

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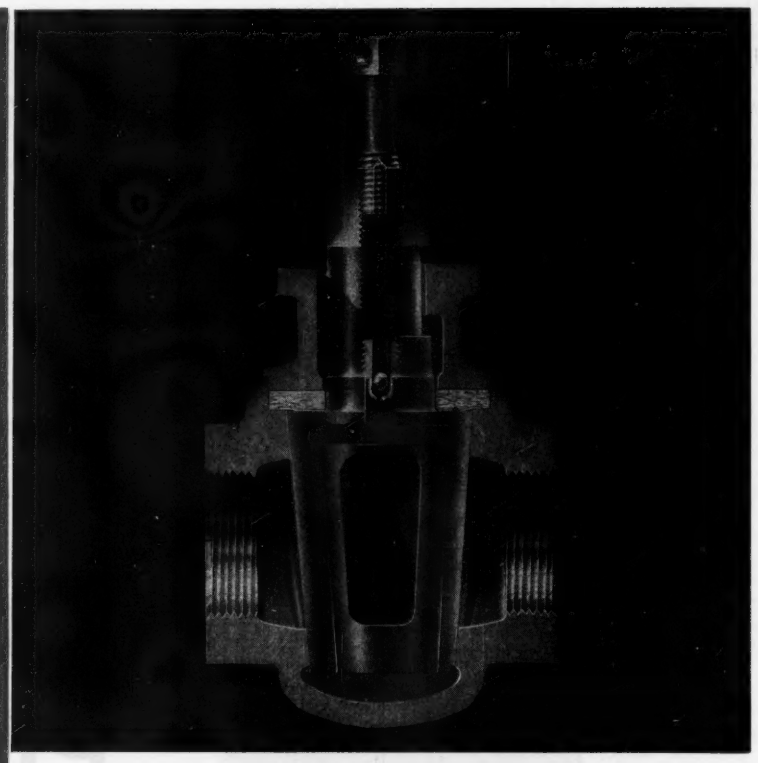
Name_____

Address_____

City_____ State_____

(Use separate sheet if several slogans are submitted)

In the event of a tie for any of the prizes offered, each winner of the respective award will receive the same cash amount.



These Valves Won't Leak - Won't Stick
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NORDSTROM VALVES are of the plug cock type, with lubrication and lifting features that make them easy and sure of operation. A stick of special "Merco" Lubricant is inserted under the lubricant screw. The latter, when turned, forces the lubricant down and around the plug. Fluid or other material within the line cannot pass around the plug and leak out, or lodge in the seat. The plug is always easy to turn. Made in types and sizes to meet conditions in all industries.

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For high or low pressures.
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Factories—Oakland, California; and Belleville, New Jersey
Canadian Manufacturers—Peacock Bros., Ltd., Montreal, Cobalt, Winnipeg, Vancouver
England—Audley Engineering Co., Ltd., Newport, Shropshire
Buenos Aires, Argentine—General Electric, Soc. Anon., Victoria 618 Esq. Peru

990,000,000 BBLS. OF CRUDE OIL PRODUCED IN U. S. IN 12 MONTHS

By James McIntyre

In the 12 months ending September 30 over 990,150,000 bbls. of crude oil was produced in the United States. At the close of September, 1928, the record for 12 months was 890,320,628 bbls., showing that in the 12 months just passed an increase of 99,833,642 bbls. was recorded over the preceding 12 months. The figure of 990,150,000 bbls. is an estimate, but when the official production figures for September are all on record by the end of this month it will be found that if the above estimate errs it will be because it was placed too low. It may be found that 100,000,000 more barrels of oil were produced in the past 12 months than in the preceding 12-month period.

It seems inevitable that for the first time in history this country will produce over 1,000,000,000 bbls. of oil this year, notwithstanding the effort made in some producing divisions to keep production from running wild, and the more recent efforts in other fields to maintain production at a level with demand in the remaining months of the year.

The figures below are for August, and are given by pool in the Rocky Mountain, Mid-Continent, Gulf Coast and Southwest Texas, with a summary by producing division:

PRODUCTION OF THE UNITED STATES
Daily Average and Monthly Production in August, 1929

Producing Division—	Daily Av. Prod., Bbls.	Month Prod., Bbls.
California	878,495	27,233,353
Oklahoma	723,532	22,429,492
Texas	886,787	27,490,489
Kansas	123,115	3,816,555
Louisiana	56,934	1,764,973
Arkansas	67,293	2,086,083
Montana	11,490	356,190
Wyoming	56,916	1,764,396
Colorado	6,839	212,009
New Mexico	4,691	145,421
Eastern Fields*	140,000	4,340,000
Total August	2,956,092	91,638,961
Total July	2,910,889	90,237,559
Difference	45,203	1,401,402

*Estimated.

MID-CONTINENT FIELD

	Daily Av. Bbls.	Month Bbls.
Kansas	123,115	3,816,555
Oklahoma	723,532	22,429,492
North Texas	100,918	3,128,458
Central Texas	49,122	1,522,782
West Texas	374,293	11,603,116
Panhandle of Texas	128,568	3,985,608
East Central Texas	18,785	582,362
Arkansas	67,293	2,086,083
North Louisiana	36,306	1,125,486
Total August	1,621,932	50,279,942
Total July	1,611,733	49,963,700
Difference	10,198	316,242

GULF COAST AND SOUTHWEST TEXAS

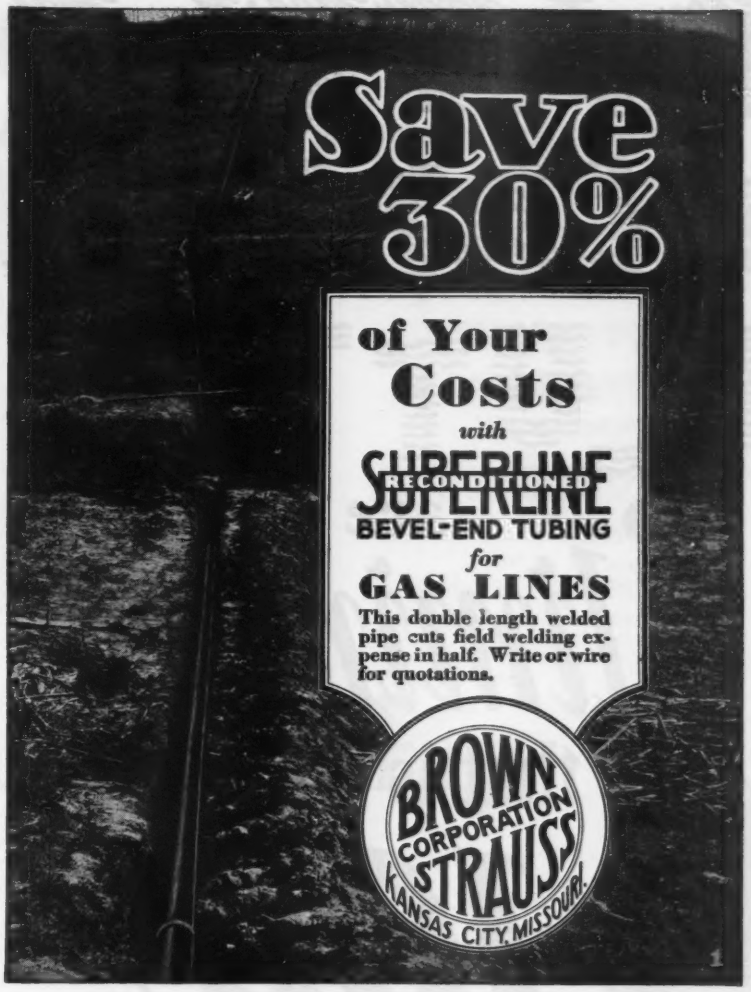
	Daily Av. Bbls.	Month Bbls.
Gulf Coast (Tex.-La.)	159,895	4,956,783
Southwest Texas	75,834	2,350,867
Total August	235,829	7,307,650
Total July	228,994	7,098,096
Difference	6,835	209,554

OKLAHOMA
Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Washington County	5,289	163,959
Nowata County	5,409	167,679
Rogers County	2,007	62,217
Osage and eastern Kay Counties:		
Burbank	18,975	588,225
Osage, outside Burb'k	26,113	809,503
Total	45,088	1,397,728
Tulsa and Wagoner Counties—		
Bird Creek, Owasso, etc.	3,583	111,073
Red Fork, Sand Sp'gs, Turkey M't'n, Bruner	1,140	35,340
Bixby, Leonard	960	29,760
Broken Arrow, Coweta	1,072	33,232
Total	6,755	209,405
Tulsa, Creek, Okmulgee and Muskogee Counties—		
Okmulgee and Beggs	2,744	85,064
Mounds	1,730	53,630
Bald Hill, Haskell	2,513	77,903
Morris, Boynton, Cole	2,157	66,867
Total	9,144	283,464
Okmulgee, Okfuskee, Seminole, Hughes Counties—		
East Seminole	5,704	176,824
Seminole City	33,025	1,023,775
Bowlegs	33,077	1,025,387
Little River	78,263	2,426,153
Earlsboro	86,289	2,674,959
Searight	11,887	368,497
Mission	27,382	848,842
Maud	13,054	404,674
Carr City	12,794	396,614
Total	301,475	9,345,725
Asher	11,239	348,409
Pearson-St. Louis	69,957	2,168,667
Sasakwa	7,108	220,348
Henryetta, Deaner, Lyons, etc.	8,572	265,732
Wewoka	4,357	135,067
Cromwell	7,898	244,838
Papoose-Gilcrease	3,157	97,867
Jarvis-Holm	381	11,811
Weleetka	1,237	38,347
Wetumka	39	1,209
Yeager	327	10,137
Miscellaneous	649	20,119
Total	416,396	12,908,276
Creek and Tulsa Counties—		
Glen Pool, Jenks, Kiefer	6,779	210,149
Sapulpa and Fisher	609	18,879
Cushing-Shamrock	15,438	478,578
Bristow, Kelleyville and Depew	17,907	555,117
Pickett, Prairie and North Bristow	1,766	54,746
Eastern Bristow or Slick	6,326	196,106
Total	48,825	1,513,575
Pawnee County—		
Cleveland	2,572	79,732
Keystone	1,334	41,354
Jennings	2,236	69,316
Otoe	571	17,701
Ralston-Masham	154	4,774
Total	6,867	212,877
Payne County—		
Yale, Quay, Ingalls	3,308	102,548
North Cushing	1,125	34,875
South Cushing	295	9,145
Mehan-Ripley	966	29,946
Total	5,694	176,514
Oklahoma County—		
Oklahoma City	37,583	1,165,073
Lincoln County—		
Stroud	947	29,357
Davenport	1,920	59,520
Kendrick	264	8,184
Total	3,131	97,061
Kay, Grant and Noble Counties—		
Blackwell	1,063	32,953
Vernon	1,211	37,541
Otstot	792	24,552
Deer Creek	901	27,931
Ponca City	758	23,343
Mervine	212	6,572
Braman	4,053	125,643
Hubbard	1,762	54,622
Thomas	913	28,303
Tonkawa	9,122	282,782
Billings	131	4,061
Miscellaneous	233	7,223
Total	21,146	655,526
Garfield County—		
Garber	5,310	164,610
Logan County—		
Lovell	19,314	598,734
Marshall	801	24,831
Total	20,115	623,565
Carter County—		
Healdton	12,754	395,374
Hewitt	8,019	248,589
Graham	3,073	95,263
Brock	589	18,259
Fox	2,389	74,059
Sholom Alechem	12,698	393,638
Total	39,522	1,225,182
Stephens and Cotton Counties—		
Loco-Milroy	1,567	48,577
Comanche	805	24,955
Duncan	5,532	171,492
Walters	1,338	41,478
Kilgore	355	11,005
Total	9,597	297,507
Jefferson County—		
Hambro, etc.	2,058	63,798
6s-6w	264	8,184
Total	2,322	71,982
Caddo County—		
Cement	1,363	42,253
Garvin County—		
Robberson	2,142	66,402
Grady County—		
Knox	3,899	120,869
Pontotoc County—		
Allen	24,242	751,502
Beebe	1,506	46,686
Total	25,748	798,188
Beckham County—		
Sayre	37	1,147
Marshall County—		
Madill	143	4,433
Total August	723,532	22,429,492
Total July	721,675	22,371,925
Difference	1,857	57,567

KANSAS
Daily Average and Monthly Production in August

Marion County—		
Florence-Urschell	578	17,918
Peabody	1,133	35,092
Covert-Sellers	523	16,213



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Have you tried this improved valve-check in your wells yet? Have you noted its smooth operation—the perfect balance—the almost unbelievably *long life?* You are overlooking a truly amazing improvement in well operation, if you haven't!

Consider for a moment these actual performance records—names and locations on request: *six months'* continuous service in a well that required a change of balls and seats every month; *eighteen months'* service in a well where no ball would last even thirty days; *three years'* service in a Kansas well that used to require thirty-day replacements!

The Drop and Seat is not only an outstanding improvement in valve-check design—it is made of NO-CO-RO—the alloy which for twelve years has defied all imitation. Manufactured to our own analysis, and perfected by years of experience, NO-CO-RO will not pit, chip or corrode even under the worst conditions.

The offer that has placed dozens of companies on the road to lower production costs is still open: Use the Drop and Seat in your worst wells. If it doesn't give you twice the service of your best ball and seat, your money will be refunded. Order from the nearest office; complete stocks always on hand.

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Owensboro, Ky. Fort Worth, Texas Tulsa, Okla.

	Daily Av. Bbls.	Month Bbls.
Lost Springs	716	22,196
Davis	1,188	36,828
Total	4,137	128,247
Butler County—		
Elbing	2,085	64,635
Potwin	426	13,206
Cameron-Robinson	879	27,249
Wilson-Dunkle	1,341	41,571
Towanda	2,070	64,170
Fox-Bush	942	29,202
Nuttle-Koogler	1,593	49,383
Eldorado	7,268	226,308
Smock	163	5,053
Leon-Weaver	5,118	158,658
North Augusta	744	23,064
South Augusta	1,287	39,897
Sluss	233	7,223
Douglass	111	3,441
Keighly	616	19,096
Benton	133	4,123
Blankenship	647	20,057
Total	25,656	795,336
Greenwood and Woodson Counties—		
Sallyards	1,077	33,387
Teter-Pixley-Scott	4,982	154,442
Virgil	5,322	164,982
Thrall-Burkett	1,313	40,703
Seeley	7,777	241,087
Polhamus	827	25,637
Miscellaneous	928	28,768
Total	22,226	689,006
Cowley County—		
Rainbow Bend	1,275	39,525
Slick	531	16,461
Graham	283	8,773
Rock	160	4,960
Clark	168	5,208
Eastman	434	13,454
Winfield-New Salem	2,372	73,532
Miscellaneous	693	21,483
Total	5,916	183,396
Other Counties—		
Sumner	12,708	393,948
Rooks	67	2,077
Rice	753	23,343
Russell	3,411	105,741
Reno	36	1,116
Sedgwick	35,087	1,087,687
McPherson	183	5,673
Trego	44	1,364
Harvey	30	930
Coffey	241	7,471
Chautauqua	3,402	105,462
Elk	1,720	53,320
Wilson	171	5,301
Montgomery	1,286	39,866
Allen	504	15,624
Neosho	506	15,686
Lyon	1,004	31,124
Miami	952	29,512
Franklin	377	11,687
Douglas	21	651
Bourbon	12	372
Linn	199	6,169
Anderson	1,523	47,213
Labette	21	651
Chase	13	403
Woodson	909	28,179
Total August	123,115	3,816,555
Total July	124,747	3,867,157
Difference	1,632	50,602

NORTH TEXAS
Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Burkburnett	9,136	283,216
Electra	11,991	371,721
Iowa Park-K.M.A.	4,829	149,699
Archer County	19,208	595,448
Clay County	759	23,529
Wilbarger County	31,237	968,347
Montague County	6,552	203,112
Young County	6,633	205,623
Baylor County	67	2,077
Cook County	10,279	318,649
Foard County	227	7,037
Total August	100,918	3,128,458
Total July	100,290	3,108,990
Difference	628	19,468

CENTRAL TEXAS
Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Coleman	5,924	183,644
Comanche	220	6,820
Stephens	5,856	181,536
Eastland	6,153	190,743
Brown	7,941	246,171
Callahan	4,118	127,658
Runnels	29	899
Throckmorton	643	19,933
Jack	3,761	116,591
Palo Pinto	708	21,948
Shackelford	10,320	319,920
Erath	260	8,060
Jones	3,117	96,627
Haskell	72	2,232
Total August	49,122	1,522,782
Total July	48,956	1,517,636
Difference	166	5,146

EAST CENTRAL TEXAS
Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Boggy Creek	2,762	85,633
Cedar Creek	87	2,700
Currie	511	15,849
Hill County	21	656
Mexia	5,317	164,823
Minerva	652	20,195
Nigger Creek	339	10,520
Powell	7,537	233,651
Richland	379	11,753
Thrall	32	992
Wortham	1,148	35,590
Total August	18,785	582,362
Total July	19,382	600,851
Difference	597	18,489

WEST TEXAS
Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Big Lake, Reagan	17,148	531,601
Chalk-Settles, Glasscock-Howard	37,694	1,168,505
Church-Fields, Crane	24,441	757,671
Connell, Ector	3	87
Hazlett, Ward	713	22,098
Hendricks, Winkler	130,906	4,058,095
Ira, Scurry	9	278
McCamey-Taylor, Upton	8,329	258,186
McElroy, Crane	14,163	439,059
Powell, Crockett	1,595	49,456
Stephens, Fisher	1,320	40,934
Skelly, Winkler	102	3,170
Waddell, Crane	40	1,241
Westbrook-Iatan, Mitchell	2,393	74,168
Wheat, Loving	919	28,502
Yates, Pecos	133,381	4,134,823
O'Brien, Hutchins, Ward	1,165	36,115
Total August	374,293	11,603,116
Total July	397,795	12,331,644
Difference	23,502	728,528

TEXAS PANHANDLE
Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Hutchinson	25,126	778,906
Carson	9,501	294,531
Gray	92,106	2,855,286
Moore	1,086	33,666
Potter	24	744
Wheeler	725	22,475
Total August	128,568	3,985,608
Total July	94,138	2,918,278
Difference	34,430	1,067,330

NORTH LOUISIANA
Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Caddo, light	9,063	280,953
Caddo, heavy	3,291	102,021
Homer	3,902	120,962
Haynesville	4,993	154,783
DeSoto-Red River	3,610	111,910
Elm Grove	561	17,391
Bellevue	629	19,499
Cotton Valley	2,472	76,632
Urania	6,311	195,641
Pleasant Hill	1,207	37,417
Sarepta-Cartersville	267	8,277
Total August	36,306	1,125,486
Total July	35,812	1,110,172
Difference	494	15,314

ARKANSAS
Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
El Dorado	4,621	143,251
Smackover, light	6,076	188,356
Smackover, heavy	46,637	1,445,747
Stephens	992	30,752
Nevada County	1,002	31,062
Lisbon	1,173	36,363
Bradley	96	2,976
Champagnolle	6,696	207,576
Total August	67,293	2,086,083
Total July	68,937	2,137,047
Difference	1,644	50,964

SOUTHWEST TEXAS
Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Branyon	26	797
Bruner	47,601	1,475,648
Dale	460	14,269
Darst Creek	509	15,770
Kingsville	598	18,524
Larremore	159	4,935
Luling	11,919	369,506
Lytton Springs	976	30,249
McMullen County	38	1,188
Medina County	32	992
Mirando	10,546	326,926
Somerset	1,763	54,658
Yoast	1,207	37,405
Total August	75,834	2,350,867
Total July	75,798	2,349,745
Difference	36	1,122

GULF COAST
Texas
Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Allen	12	361
Barbers Hill	16,769	519,841
Batson	1,326	41,097
Big Creek	3,929	121,795
Blue Ridge	2,816	87,283
Brenham	418	12,975
Boling	1,439	44,612
Clay Creek	2,298	71,230
Damon Mound	632	19,598
De Walt	11,811	366,157
Fannette	115	3,552
Goose Creek	5,662	175,525

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EACH member of the Armstrong Steam Trap "family group" shown here is a specialist, especially engineered for its job. Armstrong makes no other product. And the line is complete . . . there is a size and style to meet every condensate drainage problem—for pressures up to 900 pounds and temperatures up to 750° F.

Armstrong Traps remove condensate without the loss of live steam, and discharge entrained air and gases. They are easily installed. Most of them are light enough to be supported by the pipe lines in which they are placed.

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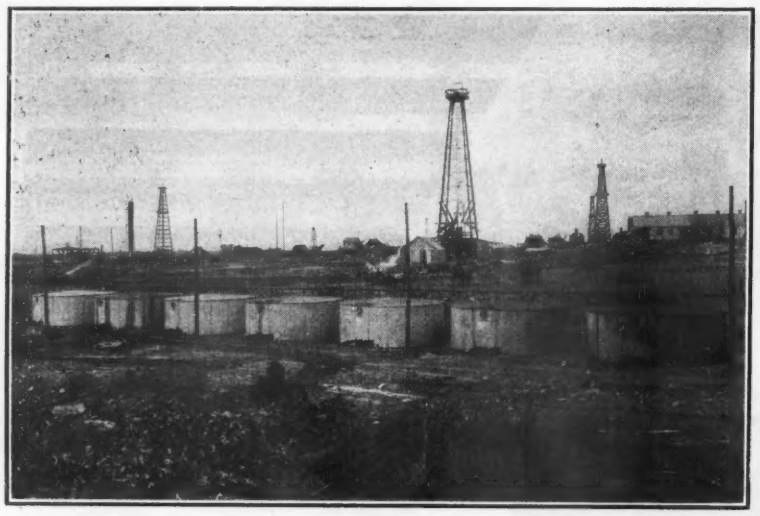

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Operate Lease Tanks *Under Pressure* for Maximum Income . . .

A report of investigations conducted by the U. S. Bureau of Mines says: "The operation of lease tanks under pressure prevents gasoline-laden vapor from leaving the tank until certain definite and predetermined pressures are built up within the tank. This restricts the movement of vapors due to temperature variations, and reduces the movements due to other atmospheric changes such as windage and barometric pressure."

MALONEY *Vapor-Pressure* Flow and Stock Tanks are equipped for operation under pressures up to 16 ounces—thus effectively restricting the movement of vapors, maintaining the gravity of the crude and increasing the price at which the oil can be sold.

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MALONEY ALONE

High Island	1,434	44,441
Hull	8,795	272,653
Humble	8,910	276,226
Jasper	20	625
Lost Lake	140	4,357
Markham	376	11,655
Nash	466	14,440
North Dayton	500	15,510
Orange	2,830	87,729
Orchard	84	2,594
Pierce Junction	14,255	441,891
Port Neches	577	17,883
Refugio	4,522	140,198
Raccoon	8,177	253,484
Sheeks	276	8,550
Saratoga	933	28,939
Sour Lake	2,675	82,917
Liberty	4,844	150,162
Spindletop	25,897	802,822
West Columbia	6,329	196,194
Total August	139,267	4,317,296
Total July	133,638	4,142,845
Difference	5,629	174,451

South Louisiana

Anse La Butte	106	3,300
Bayou Bouillon	159	4,936
Black Bayou	92	2,853
Dog Lake	43	1,344
Edgerly	799	24,783
Jennings	2,308	71,562
Hackberry	4,622	143,296
Lake Pelto	194	6,000
Lockport	3,438	106,587
Port Barre	318	9,869
Sorrento	133	4,109
Starks	396	12,262
Sulphur	3,408	105,645
Sweet Lake	32	981
Vinton	4,264	132,170
Welsh	316	9,790
Total August	20,628	639,487
Total July	19,558	606,312
Difference	1,070	33,175
Ttl Gulf Coast, Aug.	159,895	4,956,783
Ttl Gulf Coast July	153,196	4,749,157
Difference	6,699	207,626

WYOMING

Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Big Muddy	2,255	69,905
Oregon Basin	5,914	183,334
Byron	....	....
Dutton	33	1,023
Elk Basin	588	18,228
Ferris	65	2,015
Frannie	23	713
Grass Creek	2,237	69,347
Greybull	11	341
Hamilton	1,016	31,496
LaBarge	2,355	73,005
Lance Creek	218	6,758
Lost Soldier	3,917	121,427
Mule Creek	706	21,886
Osage	556	17,236
Pilot Butte	70	2,170
Poison Spider	995	30,845
Rock Creek	2,435	75,485
Rex Lake	107	3,317
Lander	492	15,252
Salt Creek	32,835	1,017,885
Simpson Ridge	53	1,643
Teapot Dome	35	1,085
Total August	56,916	1,764,396
Total July	54,014	1,674,434
Difference	2,902	89,962

MONTANA

Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Cat Creek	1,444	44,764
Kevin-Sunburst	6,952	215,512
Pondera	3,011	93,341
Lake Basin	83	2,573
Total August	11,490	356,190
Total July	11,208	347,448
Difference	282	8,742

COLORADO

Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Craig	1,213	37,603
Fort Collins	2,405	74,555
Florence	898	27,838
Iles	1,748	54,188
Tow Creek	454	14,074
Miscellaneous	121	3,751
Total August	6,839	212,009
Total July	6,898	213,838
Difference	59	1,829

NEW MEXICO

Daily Average and Monthly Production in August

	Daily Av. Bbls.	Month Bbls.
Artesia	845	26,195
Cap Rock (Maljamar)	619	19,189
Lea and Eddy	2,089	64,759
Hog Back	63	1,953
Rattlesnake	1,075	33,325
Table Mesa	....	....
Total August	4,691	145,421
Total July	4,036	125,116
Difference	655	20,305

C. C. HERNDON HEADS KANSAS-OKLA. DIVISION

(Continued from Page 81)

drilling which brings on uncontrolled floods of unnecessary oil.

We respectively submit to the industry that for a number of years to come this business must be conducted in a manner which will permit the withdrawal of oil from reserves only as there is a demand for the same. Stocks are now so large and so many potential areas have been opened up that heedless drilling is certain to bring about demoralization. On the other hand, orderly development and operation, with due regard to the state of the market, will insure a reasonable degree of prosperity, as well as conservation in the public interest. Land departments should be instructed not to purchase spreads of acreage around new development projects, nor to make contracts looking to early drilling of wells.

Everybody in the industry including royalty owners are urged to lend assistance at this critical time.

The annual banquet of the association was held in the Crystal ball room in the Mayo Hotel Wednesday evening. About 600 oil men attended, among them being many from points outside the Mid-Continent Field, including foreign lands. The foreign guests were individually introduced and were accorded an ovation.

In the absence of President Herndon, E. H. Moore, first vice president, acted as toastmaster, introducing Homes S. Fox, foreign trade commissioner for the United States Department of Commerce; Edwin Higgins, managing director of the California Oil Men's Association; and Harry H. Rogers, president of the Exchange National Bank of Tulsa, all of whom were on the program for speeches; Gov. W. J. Holloway of Oklahoma; Congressman W. W. Hastings; Walter M. Harrison, editor of the Daily Oklahoman, Oklahoma City; Lew H. Wentz, Ponca City, oil producer and chairman of the State Highway Commission, and Roger W. Babson, business statistician of Babson Park, Mass.

The remarks of Messrs. Fox, Higgins and Rogers are printed elsewhere in this issue.

Governor Approves Conservation

Governor Holloway assured those present that he was heartily in accord with the efforts of American oil men to stabilize their business and that he, as governor, would co-operate with them in any plan that was for the good of the industry.

"The State of Oklahoma is vitally interested in the prosperity of the oil industry," the governor said. "While few people realize the fact, approximately 75 per cent of the state income is derived from oil production in various ways. Therefore, if the oil industry suffers the State and consequently the taxpayers suffer also.

"The unanimous movement for curtailing output, which has just been adopted, is a healthy sign that the men who make up the industry are broad enough to see what is required and to take the necessary steps.

"Oil-producing states elsewhere are looking to Oklahoma to take the required steps to cut down the overproduction which has menaced the industry. The sensible measures adopted will no doubt be copied by producers in other fields."

SAYS GAS LAW WILL HOLD

SAN FRANCISCO, Calif., Oct. 12.—The power of the state to prevent unreasonable wastage of natural gas is conceded to be a lawful exertion of authority, the repeated decisions of the Supreme Court of the United States on this very question have placed this matter definitely at rest declared William E. Colby, counsel for the Bradley mining interests, speaking before the Institute of Mining and Metallurgical Engineers, who warmly defended the Lyon gas conservation laws, as yet but theoretically in effect in California.

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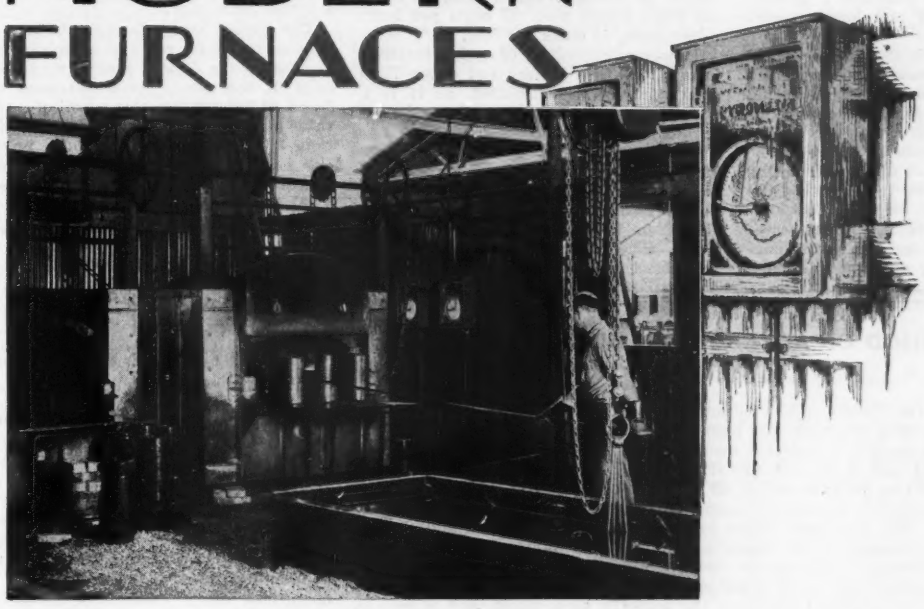

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All Emsco and D+B Products (Except Derricks) Sold Exclusively in Mid-Continent Fields by The Continental Supply Company

EMSCO STEEL EQUIPPED WELLS ARE SAFE

This is the seventh of a series of advertisements featuring the Emsco *process of manufacture of Tool Joints*

INSULATION GOOD INVESTMENT ON BOILERS AND STEAM LINES

By Walter H. Meier
Chief Engineer, Atlantic Oil Producing Co.

The insulation of oil country boilers and steam lines is an important form of operating economy that has been generally disregarded by operators and drilling contractors. Fuel gas is generally considered to be free or of small monetary value, so the natural thought follows that there is no need for conserving fuel by boiler insulation. However, by insulating boilers and steam lines, the saving is not limited to fuel only, but includes decreased maintenance and repair expense, less boiler shut-down, greater volume of dry steam and longer useful life.

Three methods of insulation are available for use—asbestos blankets, block magnesia and asbestos, and an insulating cement composed for silica fibre, asbestos and clay. These materials, except the blankets which are made to order, can be obtained from stocks of several insulating concerns located in the larger cities and who are equipped to contract the installation on a turn-key basis. The asbestos blankets, made up in sections to fit snugly around the boiler, are best adaptable to boilers that are frequently moved and transported considerable distances, such as contractors' drilling boilers. This type of insulation is practically 100 per cent salvable, very easily placed and removed by unskilled labor; however, it is necessary that each blanket be kept with the particular make and size of boiler for which it was manufactured to insure a proper fit and highest efficiency of heat conservation. The cost is approximately $320 each for an 85-horsepower A.S.M.E. code boiler in the Mid-Continent fields. The block magnesia and asbestos method is more generally adapted to use of station or lease boilers and is the type most readily obtained on short notice. It is the most efficient type of heat insulation but requires some skilled labor to install properly, and in moving the boiler the loss, due to breakage, may amount to 50 per cent or even more. The cost, in place, is approximately $250 per 85-horsepower boiler in nearly all Mid-Continent and Gulf coastal fields.

The insulating cement of silica fibre, asbestos and clay is probably the most satisfactory insulator for oil field use; it is easily applied and repaired by unskilled labor. It is reclaimable and after being removed from a boiler, it can be reused by merely mixing with water and applying again. Its efficiency is quite high and its cost is about $225 per 85-horsepower boiler in Mid-Continent fields.

It is not recommended that the insulation on the boilers be used as a substitute for a boiler house but as a means of conserving heat and reducing steam plant investment and maintenance. A waterproof coating applied directly over the insulation hard finish coat will add considerably to the durability of the insulation. This should always be used on drilling boilers and such installations that are usually exposed to the weather.

The above cost of each type of insulation includes the proportionate part of steam lines and fittings in a boiler battery but no steam lines beyond boiler house.

Steam lines and fittings should be covered with standard thick magnesia pipe covering. All lines exposed to weather should have an additional waterproof roofing jacket fastened on with No. 16 gauge galvanized iron wire. The costs per foot of outside pipe insulated and waterproofed as outlined, are approximately as follows: 4-inch pipe, 80 cents per foot; 3-inch pipe, 65 cents per foot; 2-inch pipe, 45 cents per foot.

However, regardless of which material is used, oil field boilers and steam lines should always be insulated, as it is a rare case where the cost will not be returned many times over.

To cite a few examples: No. 1—Four 70-horsepower boilers uninsulated were each consuming 35 bbls. of crude oil per day and not delivering sufficient steam to properly operate the lease. They were insulated in three days with block magnesia and asbestos. After insulating, the fuel consumption was reduced to 20 bbls. of oil per boiler, and, although the weather was much more severe and colder, three boilers carried the load very easily. The cost of insulation was saved in less than one week.

No. 2—Four 75-horsepower boilers uninsulated and fired with natural gas could not furnish sufficient steam, and due to heavy firing were constantly giving flue and stay-bolt trouble. The records indicated maintenance and repairs of almost $160 per month for each boiler. A request was made to install an additional boiler. Instead, the four boilers were insulated with block magnesia and asbestos and three boilers were then able to handle the load, which had somewhat increased and the $160 per month maintenance expense was practically stopped.

No. 3—A station having two 65-horsepower uninsulated boilers was using 50 bbls. of crude oil per day for fuel; the boilers were so heavily fired that it was almost impossible to remain in the boiler house because of the noise and vibration. These boilers were insulated and the fuel consumption dropped to 30 bbls. per day and one boiler was able to carry the load part of the time. The cost of insulation was saved in less than three weeks.

These are typical cases and should be convincing that to insulate boilers and steam lines is a good investment.

METHOD OF APPLICATION OUTLINED

L. G. E. Bignell

In offering the readers of The Oil and Gas Journal this article prepared by Mr. Meier we wish to express our appreciation to him for his contribution which outlines a method of applying insulation to oil field boilers that is of real worth to the men of the industry if used by them.

The Oil and Gas Journal will at all times welcome articles of this type for they are constructive in that they suggest to the industry means of effecting savings that will have their effect in lowering production costs and at this time every producer of oil should be interested in anything that will assist him in securing his oil at lower costs.

There are undoubtedly many other practices followed in the various oil fields that will be of equal interest to the industry as a whole, and it is hoped that others will avail themselves of the columns of The Oil and Gas Journal to pass their findings along to their fellow workers to the end that the industry as a whole may be benefited and production costs lowered in all fields.

MORE DIESEL TANKERS

The United States Shipping Board has approved a loan totaling $6,304,687 to the Motor Tankship Corp. in the construction of five motor tankers of approximately 13,450 dead weight tons each. The Sun Shipbuilding & Dry Dock Co., Chester, Pa., will build the tankers which will be of approximately 18,900 tons displacement, and will be propelled by single screws powered by Diesel engines.

BANKER ANALYZES CONDITIONS IN THE PETROLEUM INDUSTRY

By Harry H. Rogers
President, Exchange National Bank, Tulsa*

The oil industry is a vital concern of us all. This country cannot be satisfactorily prosperous with any major industry languishing. Except the textile and coal industries, the condition of the oil industry may be considered most unsatisfactory. This is due to several causes: First, lack of understanding; second, lack of co-operation; third, short sightedness, and fourth, absolute selfishness.

To remedy the situation permanently we must have the facts, and having them, approach the solution of the problem in a sympathetic way.

The United States Bureau of Mines estimates in the 69 years of petroleum production in the United States, up to January 1, this year, there has been produced 11,243,146,000 bbls. of oil of a total value at the well of $15,321,277,000. More than 33⅓ per cent of this total production has been brought to the surface during the last five years, the figures being 4,051,160,000 bbls. of the value of $5,985,113,000. This amount of money is 39 per cent of the total value of all the crude oil which has been produced in the United States, so that in the last five years we have reaped one-third of the reward of 69 years of oil producing efforts.

The tendency towards overproduction is disturbing the welfare of the entire industry and its allied interests. The industry is of such importance and proportions that the slightest variation in price means much to the prosperity of the industry.

Bankers Interested

The bankers of the country are directly interested in the menace of overproduction because of the immense amount of capital which is required to carry on operations under uneconomic conditions. The consistent increasing cost of producing oil is adding greatly to the financial burden.

In order to keep sufficient petroleum bearing reserves for future use oil companies have had to acquire new acreage and carry on explorations. This practically in itself, has been largely responsible for the present overproduction. Little caution has been used in producing from the new pools. Apparently every known device has been resorted to in order to increase the production of existing pools.

Oil companies, having attempted to fortify themselves for the future have been confronted with the necessity of drilling the acreage, or paying large sums of money to hold it. In the State of Kansas, during 1929, it is estimated the cost of holding undeveloped acreage is $3 per acre. These expenditures must necessarily be charged against the profits from producing acreage.

Co-operative exploration and development must be resorted to if any solution is to be had of this problem. During the last 16 years the average cost of drilling and equipping oil wells in Oklahoma has increased 1,340 per cent.

Among the evils of overproduction is the forced necessity of carrying burdensome stocks of oil above ground. These stocks must be kept in expensive storage with a great deal of depreciation; taxes are excessive and the fire hazard great. It has been necessary in the past, and may continue to be necessary, to keep a certain amount of oil in storage, but undoubtedly increased stocks are a price menace.

It is estimated that each barrel of petroleum which goes into storage adds 50 per cent per barrel to the investment. If this is true, the 667,000,000 bbls. of petroleum in storage creates an additional investment, through storage alone, of approximately $335,000,000. This, together with interest must be returned through the sale of oil, or a deficit appears on the profit and loss sheet.

The correct policy it would seem would be to produce oil to meet the demand. In other words, when our reserves are reasonably well defined petroleum can be produced and refined as needed, with proper co-operation. The oil in sight will warrant curtailment of exploration for months and probably years to come, and it is not only feasible but economically necessary that this oil should be orderly disposed of.

The prosperity of the steel business is indicated by the "unfilled orders." It produces to meet the demand of these unfilled orders, and as a result has for years enjoyed prosperity. Cannot the oil industry afford to profit by the experience in steel?

The oil business can be made just as sound and profitable as any other business, but the rules which have made other business sound must be applied in connection with the oil business.

Fortunately the great majority of the people engaged in the business seem determined now to apply themselves to an urgent study of the oil business and a practical application of simple business rules.

Because of overproduction and glutted market oil stocks have depreciated; bonds are even more depreciated, and it becomes the banker's duty to co-operate with the producer, refiner and marketer to stabilize and increase these values if the industry is to continue to be one of the important and profitable industries. With the present reserves known to be sufficient for a time, it would seem the part of wisdom to discourage the wildcatter, at least for a period. I know how difficult this is, but the oil companies themselves have within their power, if they choose, to steady the boat by refusing to buy additional blocks of acreage or to furnish offset drilling money.

*Before the annual meeting of the Mid-Continent Oil & Gas Association, Tulsa, October 9.

EASTERN FIELDS

(Continued from Page 54)

36, Franklin Township, same county, the Southern Oil Co. has drilled deeper an old well on the John Winland farm. It was dry in the Squaw sand. In the NW of Section 11, Sutton Township, Meigs County, John M. Hazlett and others completed a second test on the Belle Spencer farm, a 5-bbl. pumper in the Cow Run sand.

In Franklin Township, Section 12, Licking County, the Peoples Banking & Trust Co. completed in the Berea grit No. 15 on the J. W. L. Motherspaw farm, a 2-bbl. pumper. In the NW of Section 9, Perry Township, the Preston Oil Co. has an 8-bbl. pumper in the same formation on the J. C. Scanlon farm. In Section 14, Franklin Township, A. W. Patten & Co. completed in the Berea grit No. 9 on the G. E. Cotterman farm, a 5-bbl. pumper.

Washington County

In Section 33, Lawrence Township, Washington County, Harlin, Cochran & Co. completed in the Berea grit No. 12 on the J. H. Ward farm, good for 7 bbls. a day and has considerable gas. In Alliance corporation, Stark County, the Alliance Brick Co. has completed in the Berea grit No. 4 on the Alliance Brick Co.'s property. It is a 5-bbl. pumper. In the SE of Section 22, Jackson Township, Knox County, Harry E. Cameron and others completed and shot in the Clinton sand a test on the Harry R. Hall farm, not better than a 4-bbl. pumper. In Lawrence Township, Washington County, Clice & Co. have a light pumper in the first Cow Run sand at No. 7 on the S. M. Ames farm.

In Section 6, Jackson Township, Muskingum County, the Hope Construction & Refining Co. completed and shot in the Clinton sand No. 9 on the W. E. Helphrey farm. It produced 25 bbls. the first 24 hours. In the NW of Section 27, Perry Township, Hocking County, Wil-

liam Spingler has a duster in the Clinton sand on the Henry Wagner farm.

On Dana Run, Newport Township, Section 35, Washington County, the Oneida Producing Co. completed in the Mitchell sand No. 24 on the Frank Bosworth farm. It is a light pumper. In Section 76, Salem Township, Monroe County, the Wittmer Oil & Gas Properties Co. and others completed in the Gordon sand a duster on the Alvin Nutter farm. In Section 29, same township, the same company has very light pumper on the Jacob E. Carpenter farm.

Morgan County

Two miles south of Chesterhill, Section 13, Marion Township, Morgan County, W. S. Harris has completed No. 7 on his own farm. It produced 25 bbls. the first 24 hours after drilled into the Cow Run sand.

In Section 11, Perry County, Licking County, M. F. Whitehill has an 8-bbl. pumper at No. 11 on the Alice Ashcraft farm. In Fallsbury Township, the Emerald Petroleum Co. and others have an 18-bbl. pumper on the J. C. Cochran 60 acres. The same company has a 15-bbl. pumper at No. 5 on the J. E. Martin farm. In Perry Township, M. F. Whitehill is due in the Clinton sand on the S. A. Burkholder farm.

In Section 24, Pike Township, Coshocton County, the Pure Oil Co. completed No. 3 on the Mary E. Anderson farm. It is a 20-bbl. pumper in the Clinton sand. The same company is drilling Nos. 4 and 12 on the William L. Norris and G. W. Crawford farm. In the same township, Spindler, Donnan & Co. have a rig up on the Wolford farm.

In Section 9, Deerfield Township, Morgan County, James Pierce & Co. have started to drill on the E. L. Allard farm. In Section 5, Jefferson Township, Noble County, Ellis, Young & Co. have a duster at a second test on the William Wiper farm.

Perry County

In Section 17, Harrison Township, Perry County, the Pure Oil Co. has a gasser in the Clinton sand at a second test on the George Gabriel farm. In Section 18, the Famous Oil & Gas Co. has a gasser on the A. Cannon farm. Perry County is still one of the most active in southeast Ohio. In Harrison Township, there are four wells drilling and rigs completed for more than a dozen test wells, located principally in Section 4.

In Section 24, Perry Township, Hocking County, Perry Sturm and others have a 10-bbl. pumper at No. 6 on the Woodruff heirs' farm. In Section 36, Ward Township, the Northern Development Co.'s test on the J. G. Payne farm is a light pumper in the Clinton farm. In the same district, the Preston Oil Co. has spudded in and the rig completed for Nos. 1,352 and 1,366 on the Sunday Creek Coal Co.'s property. In Perry Township, William Spangler is drilling on the Henry Wagner farm. In Washington Township, the Preston Oil Co.'s second test on the C. K. McCarty farm is a 15-bbl. pumper. The same company has made the location for a second test on the Eliza Beesy farm.

Guernsey County

In test wells drilling and starting, Guernsey County is second to Perry County. The Ohio Fuel Gas Co. is drilling tests on the S. W. Stewart, C. M. Oldham, L. Shocker, D. Camblett, C. C. Wilson and A. E. Rubison farms. The East Ohio Producing & Refining Co. is drilling on the C. and A. Gray farms. William Larick and others have made the location for a second test on the C. C. Virtue farm. In Section 10, the Gas Supply Co. is due in the sand on the J. B. Alloway farm. In Section 16, Jackson Township, Thomas W. Snider, receiver, has a rig up on the Anna Kawa farm.

In Richland Township, Holmes County, the Logan Gas Co. is drilling in the top of the sand on the Charles Garver farm. The East Ohio Gas Co. has made a location on the C. S. Bronson farm. In Hardy Township, the same company is drilling on the H. H. Ball and Evalina Smith farms. In Paint Township, the Ohio Fuel Gas Co. is due in the Clinton sand on the Mary Shrock farm. In Clarke Township, Coshocton County, the Ohio Oil Co. is drilling on the Robert Rodker and F. J. Mullett farms. In Highland Township, Muskingum County, the Wehrle company is drilling on the Etta and Melvin Ember farm. In Perry Township, the Wittmer Oil Properties Co. is drilling on the L. Romier farm. In the same township, Longfellow & Co. have a rig up on the John Jackson farm. In Washington Township, the Atha Oil Co. is drilling on the Charles White farm. In Brush Creek Township, Burkhart & Co. are drilling on the Ora Gillespie farm.

REPORT OF OPERATIONS IN IRAQ, PRODUCING FIELDS AND REFINERIES

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Oct. 14.—Most of the reports required of oil companies in Iraq are regarded as confidential and for this reason very meager information is obtainable concerning the oil industry in that small country. However, for five nonconsecutive months in 1928 reports have been published.

"Two oil companies operate in that country—the Khanaqin Oil Co. and the Iraq Petroleum Co., originally called the Turkish Petroleum Co.," states John Randolph, consul of Baghdad.

"Both are producing some petroleum, and, according to the terms of their concessions, are required to submit to the government monthly reports of their progress, including a statement of output. Most of these reports are regarded as confidential.

"The refinery of the Khanaqin company did not begin operations until some time in March, 1927, and reached full capacity only in July of that year. Its output was 275,100 bbls. in 1927 and 430,318 bbls. in 1928. This crude came from the company's field at Naftkhana, which lies along the Iraq frontier about 25 miles south of Khanaqin. The total production was refined at the Alwand refinery close to Khanaqin, as there are pipe lines from the field to the refinery and from the refinery to the railway station. All the refined products of the Khanaqin company were sold in northern and central Iraq as far south as Samawah. Basrah and other southern markets are supplied with petroleum products imported from the Persian town of Abadan, where the Anglo-Persian has large refineries supplied from its Ahwaz fields. The Khanaqin is a subsidiary of the Anglo-Persian, and the cost of shipment is much less from Abadan than from the refinery at Khanaqin.

"The oil field of the Iraq Petroleum Co. extends from 100 to 250 miles south of Baghdad, and is reported to include eight wells, the first of which produced 34 gravity oil at the rate of 95,000 bbls. daily until capped, while the others are described as at least equally good. Most of these wells, however, are plugged with cement both at the bottom and near the top. Baba Gurgur No. 2 is not plugged, and from it the company takes oil in sufficient quantity for its nearby refinery, opened in 1927 with the purpose of refining oil products for use in further drilling.

"The Iraq company does not export products nor sell locally. No precise statistics on production are available, but the refinery output for May, 1929, was reported at 21,000 bbls. The only statements for 1928 are four monthly reports which show a production of 16,602 bbls. of crude in July, 16,078 in September, 30,500 in October and 17,000 in November. Estimating from these figures it appears that the Iraq company produces about 20,000 bbls. monthly for its own use.

"The different asphalt or bitumen deposits are let out or sold for certain periods to the high bidders, who then work them for the length of their concessions, rendering no account of the quantity produced. It is stated, however, that detailed information in regard to the production of asphalt is being collected."

WEST VIRGINIA

On Sycamore Creek, Sherman district, Calhoun County, the Virginian Gasoline & Oil Co. completed a 5-bbl. pumper in the Big Injun sand on the O. E. and B. V. Elliott farm. In Grant district, Cabell County, the Harshbarger Oil & Gas Co. completed in the Gordon sand a gasser on the J. L. and Alice McGraw farm. In Smithfield district, Roane County, the United Carbon Co.'s test on the Bess Looney farm is a duster.

In Reedy district, Roane County, the Heck Oil Co. shot in the Berea grit its second test on the H. W. Allen farm, increasing its production from 57 to 180 bbls. a day. In Lee district, Calhoun County, the Hope Construction & Refining Co. has a duster at No. 1,107 on the L. G. Garrett farm. In Center district, Rothwell & Co. have a gasser in the Big Injun sand on the Zeke Ferrell farm. In Sherman district, M. F. Crowley completed in the Big Injun sand a gasser on the J. E. Jones farm. In DeKalb district, Gilmer County, Frank Golden has a Big Injun sand gasser at a second test on the G. W. Miller farm.

In Harvey district, Mingo County, the Public Gas Corp. drilled 284 feet deeper its No. 8 on the Logan Channel Coal Co.'s property. It is a gasser good for 3,750,000 feet at a total depth of 934 feet. In the same district, E. J. Evans completed in the Maxon sand a test on the J. H. Kirk farm. It is on Twelve Pole Creek and is a gasser good for 5,500,000 feet.

In Battelle district, Monongalia County, Eddy & Johnson have shut down to repair the rig on the W. L. Fox farm. In Paw Paw district, Marion County, the Carnegie Natural Gas Co. is fishing at 1,700 feet on the Z. E. and A. Michael farm. In the same district, the same company is drilling a second test on the Edgar Fox farm. In Cass Township, Monongalia County, the Carnegie Natural Gas Co. has the rig completed on the Rufus F. Lazell farm.

Doddridge County

In Central district, Doddridge County, the Hope Construction & Refining Co. has completed in the Gordon sand No. 3 on the G. W. and Zella Pigott farm, showing for a 15 or 20-bbl. pumper. In Ten Mile district, Harrison County, Johnson & Moses have a gasser in the stray sand on the A. P. Flannigan farm.

In Murphy district, Ritchie County, Simon Lebow & Co. completed in the Cow Run sand No. 3 on the D. E. and S. E. Lewis farm. It is a 3-bbl. pumper. In Sardis district, Harrison County, the Hope Natural Gas Co. is drilling deeper on the Isaac Allen farm.

Boone County is still one of the most active in West Virginia. In Scott district, the Cameron Oil & Gas Co. completed a test on the W. L. Stone farm. It is a gasser in the Berea grit. In the same district, the Mountain State Fuel Gas Co. has a gasser in the same formation on the Wade Stallings & Co.'s farm. In Washington district, the Hope Natural Gas Co. has a Berea grit gasser at No. 7,343 on the J. D. Allen farm.

In Spencer district, Roane County, the Federal Oil Co.'s No. 46 on the Provident Mining Co.'s tract is a gasser. In Williams district, Wood County, the Williamstown Orchard Co. has a gasser at No. 3 on the Charles Locker farm. In Center district, Calhoun County, W. H. Bickel's second test on the R. M. Marshall farm is a gasser in the Big Injun sand. In Sheridan district, G. W. Hamilton & Co. have a gasser in the same formation on the Mattie Blackshire farm.

Gilmer and Geary Counties

In DeKalb district, Gilmer County, the Hope Construction & Refining Co. has drilled old No. 745 on the Earl Hardman farm down to the Big Injun sand, showing a little oil. In the same district, J. A. Kelly & Co. have a 10-bbl. pumper in the Big Injun sand at a second test on the J. A. Kelly farm. In Geary district, Roane County, Storts & Co.'s test on the J. L. Storts farm is a gasser in the Big Injun sand. In Mannington district, Marion County, Sutton Brothers have a gasser in the Gordon sand on their own farm.

Drilling and Starting Tests

In Church district, Wetzel County, West Virginia, the Manufacturers Light & Heat Co. is building a rig on the J. D. Horner farm. In the same district, the Hundred Oil & Gas Trust has started to drill on the E. B. McDonald farm. In the same district, the Manufacturers Light & Heat Co. has a rig up on the Isaac Byrd farm. In Ellsworth district, Tyler County, Michael & Co. are due in the sand on the School lot. In McElroy district, local parties are delayed with a fishing job on the Marion Williams farm. In Grant district, Ritchie County, A. C. Woodford & Goff have a rig up on the N. Y. Layfield farm. In the same district, Roscoe Richards has a rig up on the Naughton Brothers' farm. In Murphy district, the Hope Construction & Refining Co. has a rig up on the Patrick Golden farm. In Grant district, the Majestic Oil Co. is due in the sand on the Carlisle farm. In Troy district, Gilmer County, the Carnegie Gas Co. has started to drill on the J. M. Matheny farm.

In Union district, Ritchie County, the Reno Oil Co. has a rig completed on the J. M. Beckert farm. No wells have been previously drilled in that locality and if it comes in a producer it will take 2,000 feet of 2-inch to connect it. In Clay district, Monongalia County, the Pittsburgh & West Virginia Gas Co. is drilling at 3,230 feet on the Eugene Moore farm. In Battelle district, the Manufacturers Light & Heat Co. is due in the Big Injun sand on the P. M. Broadwater farm. In McElroy district, Tyler County, H. Underwood and others have a rig up on the F. M. Williams farm. In Liberty district, Marshall County, the Marshall-Preston Oil Co. has started to drill on the O. S. Clark farm.

In Collins Settlement district, Lewis County, the Mudlick Oil & Gas Co. has made a location on the A. N. Smith farm. In the same district, the Mid-Penn Oil & Gas Co. has shut down on the W. C. Harris farm. In Union district, Ritchie County, the Central Development Oil & Gas Co. is rigging up on the L. S. Goff farm. In Grant and Barboursville districts, Cabell County, the United Fuel Gas Co. has made locations on the J. K. Snider and A. A. Stallings farms.

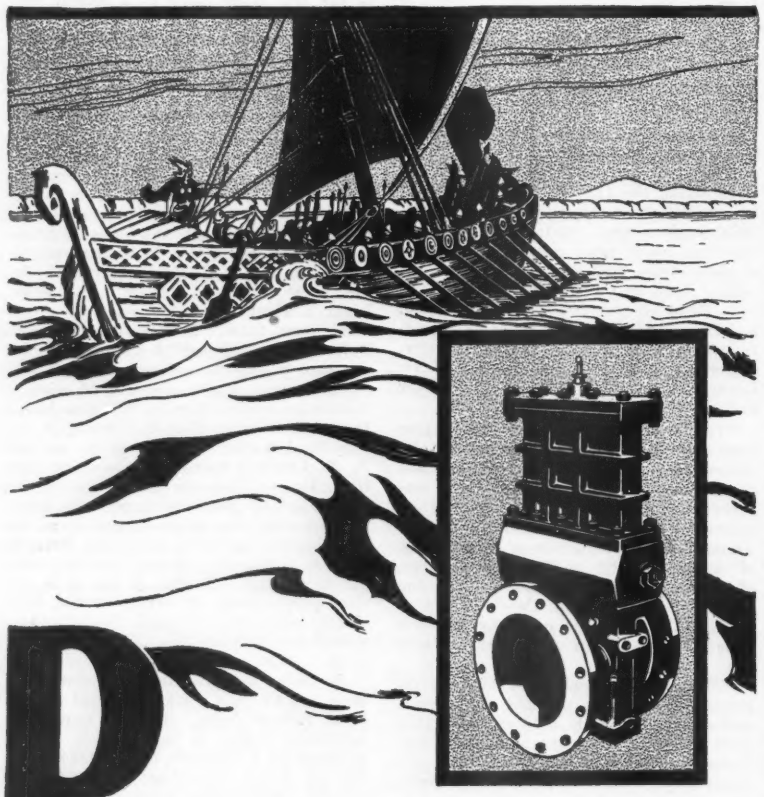
Calhoun County has considerable new work under way and starting. In Center district, W. H. Bickel has a rig completed on the Ida and Frank Johnson farm. In Sheridan district. Ira Haught and others have a rig up on the Alva Elder farm. In Center district, Gilmer County, the Carnegie Natural Gas Co. is rigging up on the L. Wilmoth farm. In DeKalb district, Alfred Ellis has started to drill on the William J. Fling farm. In Grant district, Ritchie County, Rexroad and others have rig material at a location on J. W. P. Cain farm. In Church district, Wetzel County, the Delmar Oil Co. is due in the Big Injun sand on the Anna Palmer farm.

SOUTHWEST PENNSYLVANIA

In Dunkard Township, Greene County, the Equitable Gas Co.'s test on the Jasper Williamson farm is dry and abandoned at a depth of 2,227 feet. In Whitely Township, the same company has completed a test on the John Fautz farm. It is dry in the Bayard sand and has been abandoned. The same company has completed a test on the James Vance farm. It is dry in the same formation and abandoned.

In Perry Township, Greene County, the Peoples Natural Gas Co. has completed a second test on the Hudson farm. It is a gasser good for 500.000 feet. In Whitely Township, the same company has completed a second test on the John Lantz farm. It is dry and abandoned.

OVER 8500 IN USE



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DRILLING DEEP TEST IN GERMANY USING AMERICAN EXPERIENCE

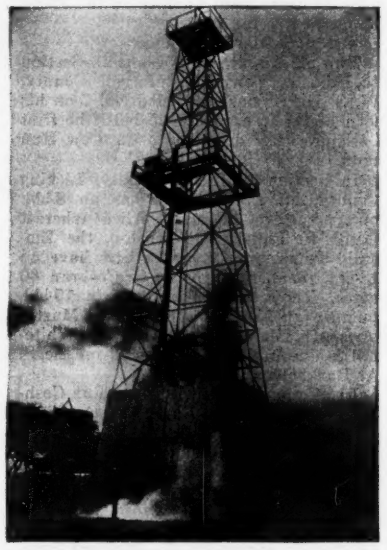
One of the most important developments now proceeding in Germany is the quest for oil in quantity over a concession in the state of Oldenburg, held by the North European Oil Co., an enterprise which has secured a number of oil leases all over Germany.

The first well is located about 3 miles west of the village of Brake on the Weser River. Though backed by the best geological knowledge, it is in all respects a wildcat and it differs from all other wells in Germany as it is being drilled according to the latest ideas of American practice and experience. It is a rotary drilled well and according to latest reports, has reached a depth of 1,945 feet and is in the greenish gray shale of the lower Eocene.

The well is being operated by an American crew under the supervision of L. Hansen and the most modern machinery is being used. The derrick stands well out of the surrounding landscape and is visible for many miles on the run from Oldenburg. It is one of the standard Ideco derricks manufactured by the International Derrick & Equipment Co. of Columbus, Ohio. The draw works and rotary equipment were made by Alfred Wirth & Co., Erkelenz; the drill pipe is supplied by the National Supply Co. and Hughes rock and fishtail bits are being used. Among the other equipment is a small type mud hog manufactured by the Oil Well Supply Co., while the casing is Mannesmann. If necessary the well is to be drilled to 5,000 feet, but present indications are particularly favorable and an average of about 50 feet of hole is made per day, every foot being cored.

The drilling crews operates in 38-hour shifts and all the members have had experience in deep drilling in California, the Mid-Continent and other American fields where wells frequently come in under high pressure.

The resident geologist of the North European Oil Co. is K. F. Hasselmann, formerly with the Standard Oil Co. of



Deep test at Ovelgonne.

California. The North European Oil Co. is a Delaware corporation. Its president is Chester Naramore; its vice president, John W. Campbell, and the other directors include Ralph Richardson, Frederick Y. Robertson, Phillip W. Russell and Dr. Arthur C. Veatch.

DISPLACEMENT OF OIL FROM SANDS BY SELECTED AQUEOUS SOLUTIONS

One of the subjects being investigated by the American Petroleum Institute research division is Project 27, the Displacement of Petroleum Oils from Oil-Bearing Sands by Use of Selected Aqueous Solutions. Progress to June 30 last is reported as follows:

It is recognized that crude petroleum oils are for the most part rather complex mixtures of a variety of different organic compounds. It has also been observed by a number of investigators that as the oil moves through the oil bearing sand or is displaced by water, it tends to be fractionated, i. e., to change in composition. It is believed that this alteration is due to the absorption of certain of the components in preference to the others. As a result of the earlier work on this project, in which the degree of wetting of the sand or silica by different crude oils and by a series of selected aqueous solutions was studied, it has been felt that there must be some relation between the adsorption of these components by sand and the degree of wetting (adhesion tension) of the sand by these components of oil. For a preliminary investigation of this nature, the crude oils are too complex for satisfactory study; hence it was necessary to choose some simple binary liquid systems upon which consistent measurements could be made. Five such systems having the desired properties were chosen, and the measurements of the liquid-liquid interfacial tensions and of the adhesion tensions were made. The systems chosen were: alpha bromnaphthalene-benzene; benzene-ethyl carbonate; alpha bromnaphthalene-ethyl carbonate; dimethylaniline-ethyl carbonate; and methyl benzoate-ethyl carbonate.

By making use of the interfacial tension data, it was possible to apply the Gibbs adsorption formulation to the liquid-liquid interface and to calculate the adsorption of solute at that interface. Also, by slightly modifying the equation, it was possible to apply this equation to the adhesion tension data and to calculate the adsorption which occurs at the solid-liquid interface. With such data, the cross sectional area occupied by the solute molecule at both the liquid-liquid and solid-liquid interface could be calculated. The value of the cross sectional area of the ethyl carbonate molecule at both of the above mentioned interfaces was calculated, and was found to be of the same order of magnitude in each case. It was also found to be in good agreement with the values given for similar substances at the liquid air interface.

The adhesion tension data for these systems have also been used to calculate the preferential adsorption of the various components of the solution over the entire range of concentrations. The adsorption curves derived from this data are identical in nature with those obtained when the adsorption by silca from these same systems is experimentally measured by means of the interferometer.

Since it is quite apparent that a definite relation between the degree of wetting (adhesion tension) of a solid by a solution and adsorption from that solution does exist, further valuable investigations could be carried out with compounds or fractions contained in the crude petroleum oils themselves. Various fractions of the crude oils could be prepared and the adhesion tension values for each of the fractions determined. Next one should combine various fractions and measure the adhesion tension values for these mixtures and the adsorption by silica from these mixtures. In such a manner, much valuable information relative to the behavior of the oil on displacement with water or aqueous solutions could be obtained.

A direct microscopic method has also been developed for the measurement of

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the adhesion tension of different liquids against transparent solids. The transparent solid used was for the most part fused silica. By thus obtaining adhesion tension data for silica, values could be compared with other values obtained in this laboratory, in which the indirect displacement method was used.

It may be stated that the two methods have been found to give comparable results.

It is believed that by use of the microscopic method, results may be readily obtained with silica and crude petroleum oils which should be of value in the study of displacement of these oils by selected aqueous solutions.

MAGNOLIA P. L. STATEMENT

The Magnolia Petroleum Co.'s statement of business for September shows crude oil runs from Oklahoma and Kansas fields of 1,967,530 bbls., daily average 65,584 bbls.; shipments 2,198,026 bbls., daily average 73,268 bbls.; stocks 9,423,863 bbls.

GULF P. L. STATEMENT

The Gulf Pipe Line Co. of Oklahoma in September reports crude oil receipts of 2,146,332 bbls., daily average 71,544 bbls.; shipments 1,899,684 bbls., daily average 63,323 bbls.; stocks 10,237,633 bbls.

NEW STANDARD SUBSIDIARY

Under the style, "Societe Franco-Americaine de Raffinage," a new French company has just been created with a capital of 20,000,000 francs in 500-franc shares, all paid up in cash, and an authorized capital of 50,000,000 francs. Objects: Buying, distilling, refining, manufacture and sale of any hydrocarbons, mineral oils and carburants, as well as their by-products, etc. The first board consists of MM. Leon Martin, Henry E. Bedford and Robert Andre.

OVER HALF VENEZUELAN PRODUCTION TAKEN OUT BY AMERICAN COMPANIES

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Oct. 14.—More than one-half of the 67,374,000 bbls. of crude petroleum produced in the new oil field at Maracaibo, Venezuela, during the first six month of 1929 was taken out by American oil companies according to a statement by Jay Walker, vice consul at Maracaibo. American companies began drilling in this field in 1924 and by 1928 there had been drilled 214 wells by Americans compared with 181 drilled by British and Dutch capital.

Vice Consul Walker in a review of conditions in this oil field states:

"The appearance and business atmosphere of the city of Maracaibo have been completely changed within the past four years by the oil developments in the Maracaibo Basin of petroleum companies organized in Venezuela as subsidiaries of companies controlled by American, British and Netherlands capital. Formerly only a coffee exporting port, the city is now called the South American oil metropolis. The influx of 4,000 or 5,000 Americans, Europeans and West Indians connected with the oil interests has influenced the local population to adopt a higher standard of living. The result has been to increase greatly the market for all classes of American manufactured commodities.

"During the second quarter of the present year the producing companies in the Maracaibo Basin worked at full pace. For the first half year production totaled 67,370,228 bbls. of crude petroleum, of which 38,416,460 were produced by American companies and 28,953,768 by British-Netherlands companies.

"In the first half of 1928, 45,378,316 bbls. were produced—22,730,135 by American companies—and in 1927 the corresponding months gave an output of 27,157,589 bbls. of crude with 11,992,934 bbls. from American companies. While petroleum companies controlled by British and Netherlands capital in 1927 produced more oil than the American interests, it is apparent that the Americans are now leading. At present it appears likely that American production in this region will continue to be the larger, in view of recent activities in all parts of the basin, and especially, drilling in new locations.

"During April, 1929, one of the American companies considerably reduced its drilling operations, owing to a change in policy and in managers. Later, the drillers released were again employed. Oil men on the executive staffs of the local producing companies believe that by the end of 1929 figures will show that more than 600 wells have been drilled during the year—a number far in excess of that for any previous year. The main production continues on the east side of Lake Maracaibo, at Ambroso, La Rosa, and Lagunillas, the three oil producing centers, which have yielded the greater part of the oil obtained to date.

"Two test wells drilled in 1924 by a British petroleum company were the first oil wells drilled in this area. The progress of recent years has changed the country's position from that of a small oil producer to second place in world importance.

"American drilling started in 1924 and since then has advanced rapidly until in 1928 it accounted for 214 wells compared with 181 drilled by British and Netherlands capital. Up to June 30, 1929, a total of 1,659 wells had been drilled in the Maracaibo Basin, of which 333 were completed during the first half of the present year. Of the entire number, 1,451 wells proved to be producers, while the remaining 208 were dry holes and had to be abandoned.

"In addition to the advance of American capital, in comparison with that from other countries, in drilling in the Maracaibo Basin, the American companies have made much greater preparations for storage of their oil within the country pending transportation to refineries and ports. At the end of June of the present year American interests had a total storage capacity of 14,332,500 bbls., with 1,945,000 bbls. of crude already installed.

"The oil fields at Lagunillas, an oil center, formerly an Indian village, are now producing the greater part of the petroleum production in the basin."

DIESEL OIL RESEARCH

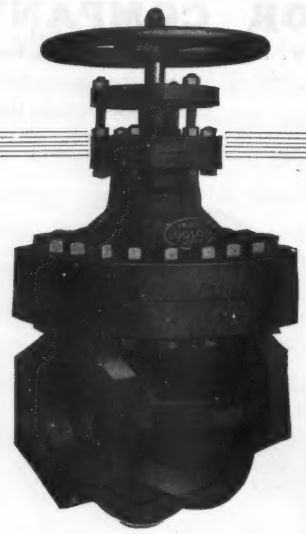
There is a tri-party interest in Diesel fuel oil: that of the manufacturer of the Diesel engine, the refiner of the oil, and the operator who must run his engine on the oil he can buy in the market. These three interested parties have co-operated in a research program under the auspices of the A.S.M.E.

MOUNTING GASOLINE TAX

Gasoline taxes each year play a larger role in raising funds from motor vehicle owners and operators and in 1928 constituted 49 per cent of total motor vehicle revenues, Prof. Henry R. Trumbower of the University of Wisconsin told the American Society of Civil Engineers in a recent address. In 1921, Professor Trumbower said, gasoline taxes represented only 4 per cent of the total.

OKLAHOMA P. L. STATEMENT

The Oklahoma Pipe Line Co.'s crude oil runs from Oklahoma and Kansas in September were 3,361,011.36 bbls., a daily average of 112,033.71 bbls.; shipments, 3,250,402.93 bbls.; daily average, 108,346.76 bbls.; stocks, 3,443,542.05 bbls.



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OKLAHOMA FIELDS

(Continued from Page 42)

Pool to the Vacuum Oil Co.. This oil is being shipped to Texas City, Tex., for reshipment to the Vacuum refinery in New Jersey.

The Continental Oil Co. at the last Osage sale of leases was the successful bidder for Tract 81, SE Section 21-24-7. The price bid was $37,000. This price was rejected by the agency officials due to the fact that the geologist of the Government appraised the lease at $40,000. It was announced by the agency if the successful bidder would increase its bid to $40,000 the lease would be allowed, otherwise, it would be cancelled.

Wilcox Test Was Dry

Transcontinental Oil Co.'s No. 1 Lincoln, NW cor. SE, Section 4-18-5, Payne County, was a disappointment. It had the Wilcox sand at 3,614-31 feet, with a hole full of water. This test is south of the discovery well in the same section.

Shaffer Oil & Refining Co.'s No. 1 Little Chief, SW cor. NW NE, Section 4-18-5, Payne County, shows a daily average production of 680 bbls. for the week ending October 9. The Wilcox sand was found at 3,482-3,534 feet. Same company's No. 2 Echo Hawk, NW cor. NE, Section 9-18-5, Payne County, shows a daily average for the last week of 470 bbls. from Wilcox sand at 3,573-91 feet. Same company's No. 1 Echo Hawk, SW cor. NE, Section 4-18-5, was drilling at 3,579 feet on October 11.

Western Wildcats

Various oil companies are still taking new leases in the northwestern part of the State, mostly in large blocks. Indian Territory Illuminating Oil Co. will drill a wildcat test in the SW cor. SE, Section 32-22-14w, Major County, for a half interest with the Continental Oil Co.

E. W. Marland, Inc. will drill a wildcat test in the S half Section 3-25-2w, Kay County. Exact location has not been announced. The test will be started in the near future.

K. D. Oil Co. has resumed operations after being shut down for the past year. The test is located in Section 1-22-2w, Noble County. The total depth of the test is 5,482 feet.

The State Line Pool which is partly in Sumner County, Kansas, and Grant County, Oklahoma, averaged 1,851 bbls. daily last week ending October 9. The average daily gauges by leases are as follows:

Company, farm—	Bbls.
Amerada, Clark	656
Gypsy, Gibson	9
Gypsy, Enderude	1,096
Gypsy, Williams	90
Total	1,851

Dewey County was the scene of little activity during the last week. J. L. Shaw has leased a block of 8,500 acres in Townships 16-17w, 17-16w and 17-17w.

Core drills are reported to be running as far west as Beaver County and also in Harper County.

Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW, Section 14-26-24w, Harper County, has cemented 9-inch casing at 5,314 feet, the total depth being 5,324 feet. Bu-Vi-Bar and others' No. 1 fee, SE cor. SW, Section 10-25-15w, Woods County, is drilling at 5,920 feet on the report of October 9. Harris & Haun's No. 1 Wyatt, C SW, Section 9-23-20w, Woodward County, was drilling at 4,630 feet in shale. Prairie Oil & Gas Co.'s No. 1 Wilbur, NE cor., Section 23-23-17w, Woodward County, was drilling at 5,461 feet in shale on October 10.

Big Gasser in LeFlore County

The Red Bank Oil Co.'s No. 1 fee, SE cor. SW NW, Section 23-9-24, LeFlore County, found gas sand at 5,005 feet. It is estimated to be making between 5,000,000 and 6,000,000 feet of gas. Drilling has been suspended to move the boiler back. This test was drilled on a structure located by the Oklahoma Geological Survey several years ago. The test is on a 10,000-acre block. A string of 4,660 feet of 8-inch casing was set in the test which is one of the longest strings of that size casing in Oklahoma.

St. Louis Pipe Line Runs

The daily average pipe line runs from the St. Louis Field for the week ending October 9, are as follows:

Company—	Bbls.
Consolidated	643
Cosden	532
Gulf	3,505
Magnolia	13,301
Oklahoma	1,434
Prairie	15,280
Shell	2,810
Sinclair	16,245
Texas	344
Tidal	8,136
Total	62,230

Seminole Pipe Line Runs

The daily average pipe line runs from the Seminole area for the week ending October 9, are as follows:

Company—	Bbls.
Barnsdall	4,678
Champlin	4,253
Continental	611
Consolidated	516
Cosden	10,834
Empire	9,981
Gulf	48,608
Magnolia	18,609
Oklahoma	46,080
Prairie	52,991
Producers & Refiners	790
Pure	4,413
Shaffer	3,286
Shell	9,234
Sinclair	27,124
Texas	15,442
Tidal	21,952
White Oak	2,450
Total	281,902
Tank cars	9,058
Grand total	290,960

Lease Deal in Jefferson County

The Carter Oil Co. has completed a deal for one of the largest lease spreads in the southern part of the State. It does not include any production. The Carter Oil Co. is buying a half interest in acreage owned by Roy M. Johnson. The acreage is in Townships 3s-4w, 4s-4w, and 3s-5w, in Jefferson County. Approximately 11,000 acres were included in the transaction. The price is said to be around $25 per acre. It is understood that several tests will be drilled on the acreage to a depth of 6,000 feet if necessary.

Carter County

Ven Mex Oil Co. has rig up for No. 1 Metheny, SE cor. NW SE Section 23-1s-3w. The rig is being built for No. 1 Spears, SW cor. NW SE Section 29-1s-3w. Magnolia Petroleum Co.'s No. 2 Hightower, NW cor. SW NE Section 30-1s-3w, made 293 bbls. in sand 2,786-95 feet. Ven Mex Oil Co.'s No. 3 Dixon, NE cor. SE NW Section 30-1s-3w, has been completed for 183 bbls. in sand 2,769-86 feet and 2,812-27 feet.

Cotton County

Shasta Oil Co.'s No. 4 Slogan, SE cor. NE NW NE Section 2-2s-10w, made a 50-bbl. well in broken sand 2,134-62 feet.

Garvin County

Texas Pacific Coal & Oil Co.'s No. 1 E. Jones, SE cor. SW Section 18-1-2w, is dry and abandoned at 1,860 feet.

Grady County

Public Service Co. of Oklahoma's No. 5 Dryden, NW cor. NE SE Section 35-5-8w, has been completed for 14,000,000 feet of gas in sand 2,375-2,400 feet.

Hughes County

McGee Brothers made location for No. 1 Bird, SW cor. SE NW Section 30-8-12.

Kiowa County

Thomas Medlin's No. 2 Prough, NE cor. SW Section 18-6-16w, is drilling at 250 feet. W. C. Adams' No. 1 Hamilton, NW cor. SW, Section 2-6-17w, has been abandoned at 1,001 feet. L. P. McWhirter's No. 1 Sherwood, SW cor. NE Section 2-5-17w, is dry and abandoned at 1,308 feet.

Pontotoc County

Independent Oil & Gas Co. made location for No. 1 Jones, SW cor. Section 8-5-5, Bebee Field. Continental Oil Co. made location for No. 1 Newby, SW cor. Section 18-5-5. B. A. Lasalle has the cellar dug for No. 1 Malloy, NW cor SE SE Section 30-5-5. No. 1 Malloy, NE cor. SE SE Section 30-5-5, is also a cellar. Benedum Trees Oil Co. made location for No. 1 H. Bumpers, NW cor. NE NW Section 33-5-5. De Laney & King moved a machine in for No. 1 Smith, SE cor. NE Section 29-5-8, Allen Pool. Westheimer & Daube's rig is up for No. 1 Hammer, NE cor. NW Section 12-4-7. W. R. Ramsey's No. 8 Millner, SE cor. NE SE Section 18-5-8, has been completed for 448 bbls. in Cromwell sand 2,560-2,624 feet.

Pottawatomie County

Independent Oil & Gas Co. has the rig on the ground for No. 2 Mull, SW cor. SE SW Section 35-8-4, St. Louis Field. Indian Territory Illuminating Oil Co. made location for No. 1 Brandenburg, SE cor. SW SW Section 35-8-4. The Texas Company staked location for No. 1 Goodin, SE cor. NE SW Section 35-8-4. Independent Oil & Gas Co. and Mid-Kansas Oil Co.'s No. 2 Weldfelt, SE cor. NW NW Section 2-7-4, is a rig on the ground. Wofford Drilling Co. made location for No. 1 McGee, NE cor. NW SE Section 4-7-4. Magnolia Petroleum Co.'s No. 4 Risenhoover, SE cor. NE Section 14-7-4, is rigging up to deepen from 4,212 feet. Sinclair Oil & Gas Co.'s No. 2 Coley, NE cor. SE SE Section 24-7-4, is preparing to deepen from 3,948 feet. Blackwell Oil & Gas Co. has the rig on the ground for No. 3 Cherry, NW cor. NE NE Section 25-7-4.

Indian Territory Illuminating Oil Co.'s No. 2 Shove, SW cor. SE SE Section 35-8-4, has been completed for 123 bbls. at 4,232 feet in Simpson sand after plugging back from 4,254 feet. Independent Oil & Gas Co. and Mid-Kansas Oil Co.'s No. 1 Mull, SE cor. SW Section 35-8-4, drilled to 4,350 feet, plugged back to 4,125 feet and flowed 241 bbls. Empire Oil & Refining Co.'s No. 1 Jackson, SW cor. SE SW Section 36-8-4, made 360 bbls. at 4,210 feet. McMan Oil Co. and White Eagle Oil & Refining Co.'s No. 2 Roberts, NW cor. NE SW Section 9-8-5 Maud Pool, was completed for 650 bbls. in Hunton lime 4,018-28 feet. Wofford Drilling Co.'s No. 1 Green, SW cor. Section 28-8-5, is dry and abandoned at 4,426 feet. Magnolia Petroleum Co.'s No. 2 Caudle, SW cor. NW SW Section 13-7-4, swabbed 200 bbls. from Simpson at 4,240 feet after plugging back from 4,290 feet. Atlantic Oil Producing Co. and Independent Oil & Gas Co.'s No. 3 Burke, SE cor. NE Section 16-7-4, has been completed for 425 bbls. in Simpson sand 4,228-52 feet. T. B. Slick and White Eagle Oil & Refining Co.'s No. 1 Latimer, NW cor. SW NW Section 16-7-4, made 800 bbls. from Simpson sand 4,127-32 feet. Commerce Development Co.'s No. 1 Asher Townsite, center of Block 67, SE cor. SW SW SW Section 18-6-4, is dry and abandoned at 3,895 feet. Simms Oil Co.'s No. 4 Laster, SE cor. NW NE Section 19-6-4, swabbed 120 bbls. from Viola lime 3,627-68 feet. No. 5 Laster, SW cor. NW NE Section 19-6-4, was completed for 340 bbls. in Viola lime 3,627-30 feet. Stogner and others' No. 1 Asher Townsite, NW cor. Section 19-6-4, has been abandoned at 3,820 feet.

Seminole County

Carter Oil Co. made location for No. 3 Harber, SW cor. SE SE Section 7-9-6. Barnsdall Oil Co. made location for No. 6 Noble, SW cor. SE SW Section 18-9-6, East Earlsboro Pool. No. 7 Noble is a location, SE cor. SW SW Section 18-9-6. Continental Oil Co. and Sinclair Oil & Gas Co. made location for No. 3 Perry, SW cor. NE NW Section 18-9-7, East Seminole Pool. Sinclair Oil & Gas Co. is building the rig for No. 2 Thompson "B," SE cor. NE SW Section 18-9-7. Amerada Petroleum Corp. and Dixie Oil Co.'s No. 2 Fullerton, NE cor. SE Section 19-9-6, is a cellar. Sinclair Oil & Gas Co. made location for No. 7 Nichols, SW cor. NE NW Section 19-9-6 East Earlsboro Pool. Location for No. 8 Nichols, NW cor. NE NW Section 19-9-6, has also been made. The Texas Company moved the rig in for No. 4 Magruder, NE cor. NW NW, Section 19-9-6. Gypsy Oil Co. has the rig on the ground for No. 4 Maley, SE cor. NW NW Section 20-9-6. Independent Oil & Gas Co. and Atlantic Oil Producing Co.'s No. 2 L. Fixico, SW cor. NW, Section 20-9-6, is a cellar. No. 3 L. Fixico, NE cor. SW NW Section 20-9-6, is also a cellar. Carter Oil Co. has the cellar dug for No. 1 Campbell, NW cor. SW Section 20-9-6. McMan Oil Co.'s No. 1 Campbell, NW cor. SE NW Section 20-9-6, is a cellar. Culbertson and Indian Territory Illuminating Oil Co. and others' rig is up for No. 1 Blankenship, SW cor. SE SE Section 10-8-5, Carr City Pool. Independent Oil & Gas Co. and White Eagle Oil & Refining Co. made location for No. 6 L. Davis, NE cor. SW SE Section 2-7-6 Little River Pool. Location has also been made for No. 7 L. Davis, SW cor. SE Section 2-7-6. Empire Oil & Refining Co. and Houston Oil Co. made location for No. 1 Johnson, SW cor. NE Section 3-7-6. Barnsdall Oil Co. is building the rig for No. 1 Factor, NW cor. SE Section 13-7-6. The Prairie Oil & Gas Co. made location for No. 3 Reed, SE cor. NW Section 13-7-6. Amerada Petroleum Corp. and Dixie Oil Co.'s No. 1 Billington, NW cor. SW NE Section 24-7-6, is a rig under construction. Empire Oil & Refining Co. has the cellar dug for No. 3 Charty, NE cor. SE NW Section 24-7-6. Reiter-Foster Oil Corp.'s No. 1 Robertson, SE cor. SW Section 30-7-6, is a cellar. Skelly Oil Co. made location for No. 1 Lusty, SW cor. SE NE Section 13-5-7. Skelly Oil Co. and Mid-Kansas Oil Co. made location for No. 1 Buykin, SE cor. SW SE Section 14-5-7.

Indian Territory Illuminating Oil Co.'s No. 1 Fife, SW cor. NW NE Section 25-10-6, is dry and abandoned at 4,118 feet in Wilcox sand. Twin State Oil Co.'s No. 1 Anderson, SE cor. SW NE Section 22-9-5, Earlsboro Pool, made 8 bbls. in sand at 2,953 feet after it was plugged back from Wilcox sand 4,364 feet. Magnolia Petroleum Co.'s No. 2 Moore, NE cor. SE Section 24-9-5, produced 758 bbls. in Wilcox sand 4,151-66 feet. Amerada Petroleum Corp.'s No. 2 Sullivan, NW cor. SW NW Section 17-9-6, made 2,615 bbls. in Wilcox sand 4,200-22 feet. Gypsy Oil Co. and Devonian Oil Co.'s No. 4 Payne, NE cor. SW SE Section 18-9-6, East Earlsboro Pool, has been completed for 2,750 bbls. in Wilcox sand 4,256-66 feet. No. 6 Payne, SE cor. NE SE Section 18-9-6, made 992 bbls. in Wilcox sand 4,244-58 feet. Continental Oil Co.'s No. 1 Smith, SE cor. SW NW Section 18-9-6, has been abandoned at 4,363 feet. Pure Oil Co.'s No. 1 Strothers "G," SW cor. NW NW Section 28-9-6, is dry and abandoned at 4,650 feet. Magnolia Petroleum Co.'s No. 3 Reed, NW cor. SW NE Section 4-8-7, made 63 bbls. in sand 3,240-82 feet. Independent Oil & Gas Co.'s No. 7 Tewee, SW cor. NE SE Section 14-7-6, Little River Pool, has been shut in for 22,000,000 feet of gas at 3,230 feet. Magnolia Petroleum Co.'s No. 7 Reed, NE cor. SE NE Section 22-7-6, is dry and abandoned at 3,160 feet. Producers & Refiners Corp.'s No. 1 Davis, SW cor. NE Section 13-7-6, made 770 bbls. from Wilcox sand 4,217-24 feet in 19 hours. Shell Petroleum Corp.'s No. 4-A Hotulke, NW cor. NE NW Section 23-7-6, has been completed for 386 bbls. in sand 3,110-60 feet. Pure Oil Co.'s No. 12 Cotcha, SE cor. NW NE Section 23-7-6, was completed for 460 bbls. in sand 3,186-3,208 feet. Empire Oil & Refining Co.'s No. 2 Charty, SW cor. SE NW Section 24-7-6, made 30,000,000 feet of gas from sand 3,105-28 feet. Gypsy Oil Co.'s No. 6 Payne, NE cor. SE NE Section 5-7-7, swabbed 1,067 bbls. in Wilcox sand 4,238-44 feet. Mid-Continent Petroleum Corp.'s No. 1 Yarhola, NE cor. SE NE Section 8-7-7, is dry and abandoned at 4,223 feet. Pure Oil Co.'s No. 1 Bates, SW cor. NW NE Section 13-6-7, is dry and abandoned at 4,365 feet. Independent Oil & Gas Co. and Margay Oil Co.'s No. 1 Holatka, SW cor. SE NE Section 7-6-8, has been abandoned at 4,256 feet. Sunray Oil Co. and Cal Cul Oil Co.'s No. 3 Joanna, NW cor. SW Section 24-5-7, made 220 bbls. in Wilcox sand 4,192-4,203 feet.

Stephens County

Denver and Wichita Falls Pipe Line Co.'s No. 10 Nigh, NE cor. SE NW Section 34-1s-8w, is rigging up. Wirt Franklin Petroleum Corp. has the rig up for No. 1 Martin, NE cor. NW SW Section 9-2s-6w. Twin State Oil Co.'s No. 1 Davidson, SE cor. Section 11-3s-8w, is rigging up.

Denver & Wichita Falls Pipe Line

Co.'s No. 1 Allen, NE cor. SE Section 35-1-9w, is dry and abandoned at 2,765 feet. Sykes and others' No. 1 Broadbent, SW cor. SE NW Section 16-1s-8w, made 38,000,000 feet of gas in sand 2,105-19 feet. Denver & Wichita Falls Pipe Line Co.'s No. 6 Tailaferro, SE cor. NW SE Section 28-1s-8w, has been abandoned at 2,507 feet. Magnolia Petroleum Co.'s No. 26 Kagay, NW cor. NE SW, Section 34-1s-8w, made a 15-bbl. well in sand 1,857-59 feet. Lone Eagle Oil Co.'s No. 14 Simpson, SE cor. NW SE Section 34-1s-8w, has been abandoned at 2,224 feet. Gorge Pace and others' No. 4 Allen, NW cor. SW NW NE Section 3-2s-8w, is a dry hole at 1,751 feet.

Creek County

Operators Oil Co. moved a machine in for No. 2 Grayson, SW cor. SE SE Section 17-19-9. Location has been made for No. 3 Grayson, NW cor. SE SE Section 17-19-9. Magnolia Petroleum Co.'s No. 6 B. Vance, SW cor. NW NE Section 7-18-7, is drilling deeper at 2,460 feet. William Sherry and others made location for No. 1 Self, C SW NW Section 22-17-10. William Sherry and F. B. Murta's rig is on the ground for No. 1 Clinton, SW cor. NW Section 12-15-9.

Operators Oil Co.'s No. 1 Boles, SW cor. NW SW Section 10-19-8, is dry and abandoned at 2,827 feet. William Sherry and others' No. 1 Welch, NW cor. SW Section 24-19-9, is a dry hole at 2,842 feet. Magnolia Petroleum Co.'s No. 6 Derrisaw, CWL NW SW Section 6-17-7, is dry and abandoned at 2,921 feet. No. 3 Tiger, SW cor. NW SE Section 17-17-7, has been completed for 120 bbls. in sand 2,331-75 feet. W. B. Pine and others' No. 2 Tiger, NW cor. SW SE Section 17-17-7, made 80 bbls. in sand 2,351-95 feet. Sinclair Oil & Gas Co.'s No. 24 Dunson, CSL SW SE Section 33-17-7, has been completed for 10 bbls. in sand 2,393-2,442 feet. Kurell Oil Co.'s No. 4 Crabtree, NE cor. NW NE Section 14-17-11, is dry and abandoned at 1,235 feet. Peters Petroleum Co.'s No. 5 Arsaylee, SW cor. SE NE Section 21-16-8, swabbed 315 bbls. in sand 3,180-98 feet. Empire Oil & Refining Co.'s No. 2 Bigpond, NE cor. SW NW Section 36-15-7, made 40 bbls. in sand 2,535-80 feet. The Prairie Oil & Gas Co.'s No. 1 Edwards "A," SE cor. SW SW Section 8-16-9, has been abandoned at 3,015 feet.

Lincoln County

Blackwell Oil & Gas Co.'s No. 1 McKeown, NE cor. SW SW Section 27-17-4, has been abandoned at 4,449 feet.

Logan County

The Prairie Oil & Gas Co. made location for No. 1 Kendrick, SW cor. NW SE Section 21-18-4w, Lovell area.

Muskogee County

E. Mills and others' No. 2 Kelly, NE cor. SW SW SW Section 13-13-18, is drilling at 380 feet. Decius & Garrett's No. 1 S. Sewell, SW cor. SE Section 17-13-17, is dry and abandoned at 2,242 feet.

Oklahoma County

Coline Oil Co. made location for No. 6 Olds, NE cor. NW NW Section 24-11-3w, Oklahoma City Field. No. 7 Olds, SW cor. NW NW Section 24-11-3w, is also a location.

Okfuskee County

Mid-Continent Petroleum Corp.'s No. 3 Dolly Dindy "B," SW cor. NE Section 31-11-11, made 252 bbls. in sand 3,020-27 feet. M. C. French and others' No. 1-A Summers, NW cor. NE SW Section 17-11-12, made 6,000,000 feet of gas in sand 2,412-14 feet. Ashe and others' No. 1 Barnett, SW cor. NE NW Section 6-10-12, is dry and abandoned at 3,935 feet. Superior Oil Corp.'s No. 1 Willie, NE cor. NW NE Section 29-9-10, is dry and abandoned at 745 feet. The Prairie Oil & Gas Co. made location for No. 1 Beidleman, NE cor. Section 8-13-10.

Okmulgee County

Sheridan Oil & Gas Co.'s No. 1 Bruner, NE cor. SW NW Section 24-15-11, is rigging up. A. McInturff's No. 1 H. Hawkins, NW cor. SE SE Section 20-12-14, is drilling at 1,300 feet. Lockart Gas Co.'s No. 1 Hogan, NE cor. NW NW Section 24-15-12, is a dry hole at 2,734 feet. Kirkland & Son's No. 4 M. Price, CEL NW NW Section 20-15-13, has been completed for 1,000,000 feet of gas in sand 2,140-60 feet. Penrod & Thompson's No. 9 L. Reynolds, SW cor. SE NW Section 15-13-14, has been completed for 10 bbls. in Wilcox sand 2,460-64 feet. E. J. Lambert and others' No. 3 L. Freeman, NE cor. NW NW Section 7-13-15, made 7 bbls. in sand 1,858-71 feet after plugging back from 2,758 feet.

Osage County

Winona Oil Co. moved a machine in for No. 7, NE cor. SW SE Section 20-29-9. Jennings Oil Co. has a machine on the location for No. 2, SW cor. NW SW Section 32-29-12. Osage Gas Producers Co.'s No. 396, SW cor. NW SW Section 29-28-11, is a machine. Peters Petroleum Corp. and Producers & Refiners Corp. made location for No. 5, SE cor. SW SW Section 22-27-11. Indian Territory Illuminating Oil Co. made location for No. 421, SW cor. NE NE NW Section 26-27-11. Oklahoma Power and Water Co. made location for No. 124, NE cor. NW Section 9-20-10. Peters Petroleum Corp.'s No. 7, NW cor. SE SE Section 22-27-11, has been completed for 90 bbls. in Bartlesville sand 1,698-1,715 feet. White Eagle Oil & Refining Co.'s No. 1 SW cor. SE NE Section 23-26-7, is dry and abandoned at 3,095 feet. Peters Petroleum Corp. and others' No. 1, SE cor. NW Section 28-21-11, made 12 bbls. in Burgess sand 1,898-1,906 feet.

Pawnee County

F. R. Gray made location for No. 1 Gwin, SE cor. NE SE Section 29-20-8. J. L. Donahue's No. 1-A Cary, SW cor. NE SW Section 22-23-4, has been completed for 100 bbls. in sand 3,241-75 feet. Houston Oil Co.'s No. 1 Harbisch, NE cor. Section 25-20-6, is dry and abandoned at 3,337 feet in Wilcox sand. E. R. Spess and others' No. 1 Miller, NW cor. NE SE Section 20-20-10, has been abandoned at 2,246 feet. The Prairie Oil & Gas Co.'s No. 4 Cotton, SW cor. NE NW Section 6-20-8, made 300 bbls. at 2,611 feet.

Payne County

Shaffer Oil & Refining Co. and Billingslea made location for No. 1 Miller, NE cor. Section 20-19-5.

Tulsa County

Highland Oil Co.'s No. 5 Mason, CSL NE NE Section 16-16-14, was completed for 9 bbls.

Wagoner County

C. F. Finefield has a machine for No. 3 A. Barnett, CNL SW NE Section 34-18-17. Mechlin & Hoy's No 1 A. Drew, SE cor. NW Section 30-18-15, is dry and abandoned 1,259-64 feet. Ash Brothers' No. 1 Drew, SE cor. NW SW Section 15-18-17, has been abandoned at 935 feet. W. S. Mitchell's No. 1 Perryman, NE cor. Section 11-17-17, has been abandoned at 240 feet. Knox & Shouse's No. 2-A Barnett, CSL NE SE Section 12-16-15, has been abandoned at 1,027 feet. Cory & Henry's No. 1 D. Grayson, C SE SE Section 4-16-18, is dry and abandoned at 1,054 feet.

WEST TEXAS FIELDS

(Continued from Page 65)

and needing proration to curtail their production.

Big Lake Deep Well

Another important feature of the Permian Basin for the week was the encountering of sandy lime in the Big Lake Oil Co.'s No. 131 University, in Section 1, Block 2, about a half mile southwest of Texon Oil & Land Co.'s No. 1-B University, Reagan County, and the shutting down of the well at 8,380 feet where the pay was encountered. Gas was estimated at 5,000,000 feet and it started spraying 55 gravity oil, practically white. During the 24 hours ending October 13 it flowed 195 bbls. This is not much production in comparison to what the other deep producer in this pool is making, but, if the reader will recall, that well made only gas for two or three days before it started flowing oil and building up its daily flow, and for the past year it has been gradually increasing every week, with a new production peak almost each week.

This second deep producer is 145 feet higher than the first deep producer in the pool, and the company may decide to drill deeper if the well does not produce according to expectations. Tools and line are still in the hole, and the gauge was made with them in the hole. It would seem there is a tremendous amount of oil at this deeper depth, and the field is without a doubt one of the best in the world, producing from different pay horizons above the deeper pay, and without anyone to make a guess as to what the potential of this deep pay may be.

The gravity of the oil is another thing to take into consideration, for the Texon well is producing 60 gravity, almost white, although at first it came in as black crude with lower gravity. The second deep well is apparently to produce the same gravity, starting out in the manner of the first.

Sutton County

It is reported the Gulf Production Co. has started leasing activities in the Edwards Plateau region, leasing approximately 7,000 acres in a block 4 miles north of Sonora in Sutton County. It is understood it will purchase still more blocks, and also checkerboard some acreage in this region. Heretofore the company has stayed out of this part of West Texas.

Gibson and Johnson of Abilene have made three locations in Mitchell County for three shallow tests to seek the shallow gas pay struck in the Simms Oil Co.'s No. 1 Ellwood in Section 29, Block 18, S.P.R.R. Survey. Their first test is to be in Section 14, Block 17, the second in Section 17, Block 19, and the third in Section 11, Block 19, the latter two being in L.&N. Survey. Gas was found in the Simms' test a little below 300 feet.

Garza County has the promise of another producer in Paul Steed and others' No. 1 J. M. Boren, 330 feet from north and 990 feet from the east of Section 136, Block 15, H.&G.N. Survey. The first showing of oil was found from 2,050-55 feet, another showing was struck from 2,488-94 feet and another from 2,508-20 feet. Total depth is 2,546 feet. It was shot with 30 quarts from 2,509-39 feet and with 80 quarts from 2,505-35 feet, and is estimated good for 20 bbls. on the pump. This will make the sixth producer in this small pool.

PIPE LINE RUNS

September 25, to October 2

RUNS THROUGH TRUNK LINES

	Last period
Atlantic P.L. Co., Port Arthur, Tex.	38,500
Gulf P.L. Co., to coast via Ranger Texas	30,673
Humble P.L. Co., Comyn, Tex.	34,525
Humble P.L. Co., Ingleside, Tex.	44,249
Illinois P.L. Co., via Del Rio, Tex.	44,371
Magnolia P.L. Co., De Leon, Tex.	21,926
Pasotex P.L. Co., El Paso, Tex.	8,894
Shell P.L. Co., Healdton, Okla.	40,276
Shell P.L. Co., Houston, Tex.	23,619
Texas Co., Houston, Tex.	25,632
Total	312,665

TANK CAR SHIPMENTS

Thomas & Brann, Grant City	185
Orient Co., McCamey, Tex.	110
American Pet. Co., Pyote, Tex.	6,571
Southern Crude O.P. Co., Wickett, Tex.	10,809
Total	17,675

RUNS TO WEST TEXAS REFINERIES

Amarillo Prod. Co., Pyote, Tex.	off
Bluebonnett Ref. Co., Wickett, Tex.	3,639
Burford Ref. Co., Pecos, Tex.	3,421
Col-Tex Ref. Co., Colorado, Tex.	7,000
Cosden Ref. Co., Big Spring, Tex.	5,313
Great Western Ref. Co., Big Spring Tex.	3,895
Humble O. & R. Co., McCamey, Tex.	5,212
Mid-Tex Ref. Co., Midland, Tex.	2,005
Tonkawa Ref. Co., Pyote, Tex.	off
Big Spring Ref. Co., Big Spring	1,670
Richardson Ref. Co., Big Spring, Tex.	3,532
Wickett Ref. Co., Pyote, Tex.	186
Total	35,873

SUMMARY

	Previous week	Last period
Pipe line runs through trunk lines	292,004	312,665
Tank car shipments	17,049	17,675
Runs to West Texas Refineries	43,249	35,873
Total daily distribution	352,302	366,213
Total daily production	368,307	361,252
Daily av. from storage	16,005	4,961

Daily Average Production by Leases

WEST TEXAS COMPLETIONS

Week ending October 12

Howard County

California Co.'s No. 3 Dora Roberts, located Section 137, Block 29, W.&N.W. R.R. Survey, Lease No. 1, topped the pay at 2,497 feet, increased production 2,514-40 and 2,944-52 feet, was drilled to a total depth of 2,974 feet and had an initial production of 500 bbls. Godley Oil Co.'s No. 6 Hooks topped the pay at 1,836 feet, was drilled to a total depth of 1,858 feet, was shot with 40 quarts at 1,836-58 feet and had an initial production of 65 bbls. in 20 hours swabbing. Moody Oil Corp.'s No. 3-B Dora Roberts topped the pay at 1,318 feet, was drilled to a total depth of 1,395 feet and had an initial production of 120 bbls. Sprague Oil Co.'s No. 3 Dora Roberts, located in Section 156, Block 29, W.&N.W.R.R. Survey, location was abandoned.

Irion County

Fuhrman Petroleum Corp.'s No. 1 Nutt, located 150 feet from north and west of Subdivision No. 4, had an oil show at 1,369-82 feet and was dry and abandoned at 1,499 feet.

Upton County

Texas Pacific Coal & Oil Co.'s No. 13-A Lane, located 330 feet from south and 660 feet from east of No. 5-A, topped the pay at 2,025 feet, was drilled to a total depth of 2,060 feet and had an initial production of 365 bbls. Humble Oil & Refining Co.'s No. 12 Ricker, located 5,008 feet from northwest and 150 feet from northeast of Denton Survey, topped the pay at 2,175-92 feet, was shot with 60 quarts at 2,225-35 feet and at 2,260-75 feet and had an initial production of 70 bbls.

Pecos County

Landreth Production Corp.'s No. 1 McDonald, located 2,310 feet from south and east of Section 46, Block 12, H.&G.N. R.R. Survey, was dry and abandoned at 2,698 feet. Perren's No. 1 Peterson, located in Section 27, Block 39, H.&T.C. R.R. Survey, had a show of oil and gas at 1,787 feet and at 2,262-66 feet and was dry and abandoned at 2,300 feet. Phillips Petroleum Corp.'s No. 1 Courtney was dry and abandoned at 4,376 feet. This well is located 660 feet from north and west of Section 78, Block OW.

Winkler County

Shell and Llano Oil Co.'s No. 7 Scarborough, located 330 feet north and 1,660 feet west of Section 2, Block 77, topped the brown lime at 2,525 feet, topped the salt at 1,260 feet, topped the pay at 2,942 feet, was drilled to a total depth of 3,371 feet, plugged back to 3,356 feet and had an initial production of 90 bbls. daily through 2-inch tubing.

WINKLER COUNTY

Week ending October 8

Company, farm, sec., blk.—	Wells	Bbls.
Amerada Pet. Corp.:		
Cowden, 3 B-12	3	35
Atlantic O.P. Co.:		
Hendricks-A 34 B-5	7	1,481
Hendricks-B 44 26	6	744
Hendricks-D 29 B-5	7	1,011
Hendricks-E 41 B-5	6	904
Hendricks-G 46 26	7	40
Hendricks-F 40 26	12	807
Bankers Prod. Co.:		
Hendricks 30 B-5	1	off
V. T. Bolin:		
Brown-Altman 4 B-5	1	4
California Co.:		
Hendricks 29 B-5	7	737
Cranfill & Reynolds:		
Hendricks-A 28 B-5	5	295
Hendricks-B 35 B-5	1	87
Hendricks-C 33 26	2	576
Hendricks-E 33 26	2	282
Cranfill & Texon:		
Hutchings 47 26	1	65
Culberson Bros.:		
Hendricks 40 B-5	1	70
Eastland Oil Co.:		
Hendricks 35 B-5	2	315
Hendricks-B 46 26	1	146
Gulf Prod. Co.:		
Hendricks-A 34 B-5	13	4,924
Hendricks-B 45 26	11	3,048
Hendricks-C 40 B-5	6	728
Hendricks 44 26	3	639
Cowden 3 B-12	3	33
Humble Oil & Ref. Co.:		
Hendricks-A 34 B-5	17	4,644
Hendricks-B 22 B-5	6	1,486
Hendruicks-C 32 26	8	591
Hendricks-B 39 26	5	273
Hendricks-C 10 B-12	13	3,658
Walton 48 26	1	108
Independent Oil & Gas Co.:		
Hendricks-A 34 B-5	7	1,232
Howe-B 44 26	3	150
McCabe 36 B-5	2	215
Vardeman-B 41 B-5	6	366
Lion Oil Co.:		
Hendricks-A 41 B-5	11	2,106
Hendricks-B 34 B-5	13	3,156
Hendricks-C 45 26	14	5,257
Hendricks-D 44 26	1	128
Magnolia Pet. Co.:		
Hendricks 29 B-5	8	449
Marland Oil Co.:		
Hendricks 33 26	4	527
Hendricks-A 29 26	2	95
Hendricks-B 34 26	2	22
May Prod. Co.:		
Hendricks 34 26	1	15

American Maracaibo:		
Hendricks-A 28 B-5	1	18
Hendricks-B 28 B-5	1	87
Mining & Engineering Co.:		
Hendricks 10 B-12	1	off
Murchison & Cranfill:		
Hendricks-A 35 B-5	3	299
Hendricks-B 35 B-5	3	366
Hendricks-C 35 B-5	1	off
Hendricks-H 35 B-5	1	657
Hendricks-I 34 26	2	139
Republic Prod. Co.:		
Hendricks-A 45 26	12	1,260
Hendricks-B 41 B-5	5	151
Prairie Oil & Gas Co.:		
Hendricks 40 26	6	1,261
Cowden 3 B-12	6	4,372
Shell Pet. Corp.:		
Hendricks-A 45 26	5	631
Hendricks-B 29 B-5	5	1,231
Hendricks-C 29 B-5	7	467
Hendricks-D 41 B-5	3	137
Hendricks-E 40 B-5	3	414
Hendricks-F 46 26	6	328
Hendricks-G 39 26	1	68
Shell-Texas Company:		
Cowden-A 3 B-12	6	1,615
Hendricks 45 26	6	1,927
Hendricks-A 29 B-5	7	1,254
Hendricks-B 40 26	4	276
Hendricks-C 40 26	6	1,592
Hendricks-D 40 26	6	228
Hendricks-E 39 26	2	163
Skelly Oil Co.:		
Hendricks 40 26	12	5,037
Hendricks-B 10 B-12	2	18
Hendricks-C 39 26	1	91
Southern Crude:		
T-67 Hendricks-A 42 B-5	3	137
T-67 Hendricks-3-A 4 B-12	4	400
T-67 Hendricks-B 44 26	5	324
T-67 Hendricks-3-B 33 26	4	310
T-67 Hendricks-C 33 B-5	5	460
T-67 Hendricks-2-D 27 26	5	1,168
T-67 Hendricks-E 42 B-5	4	137
T-67 Hendricks-F 33 B-5	5	599
T-68 Hendricks-3-A 35 B-5	3	124
T-68 Hendricks-B 46 26	2	217
T-88 Hendricks-A 44 26	6	840
T-88 Hendricks-B 4 B-12	4	209
T-88 Hendricks-C 28 B-5	8	1,000
T-88 Hendricks-D 4 B-12	6	2,838
T-88 Hendricks-H 28 B-5	6	1,104
T-88 Hendricks-I 30 B-5	7	486
T-88 Hendricks-J 30 B-5	5	464
T-88 Hendricks-K 41 26	7	1,048
T-88 Hendricks-L 4 B-12	4	442
T-88 Hendricks-M 33 26	33	16,039
T-88 Hendricks-N 28 26	7	865
T-88 Hendricks-O 28 26	4	651
T-88 Hendricks-P 28 26	2	306
T-88 Hendricks-Q 27 26	2	950
T-88 Hendricks-R 27 26	3	880
T-88 Hendricks-S 34 26	4	1,453
T-88 Hendricks-T 34 26	7	1,114
T-88 Hendricks-U 41 26	10	1,072
T-88 Hendricks-V 29 26	1	72
T-88 Hendricks-W 5 B-12	1	259
T-88 Hendricks-GX 21 26	4	1,479
T-89 Hendricks-A 35 B-5	3	165
T-89 Hendricks-B 35 B-5	2	351
T-89 Hendricks-C 35 B-5	3	600
T-89 Hendricks-D 35 B-5	1	186
T-89 Hendricks-E 40 B-5	3	134
T-89 Hendricks-F 40 B-5	2	248
T-89 Hendricks-H 46 26	2	173
T-89 Hendricks-I 10 B-12	2	108
T-89 Hendricks-J 9 B-12	8	1,357
T-89 Hendricks-L 15 B-12	2	1,004
T-90 Hutchings 47 26	1	204
Texon Oil & Land Co.:		
Hendricks-A 41 B-5	6	631
Hendricks-B 45 26	6	1,486
Winkler O.P. Co.:		
Hendricks 33 26	1	4
Total production Hendricks		
Total prod. Hendricks Pool	566	114,629

Leck Area

Atlantic, Kesslar & Logan:		
Leck, 3, 74	2	301
Amerada Pet. Corp.:		
Leck, 3, 74	2	323
Empire Gas & Fuel Co.:		
Daugherty, 3, 74	3	156
Magnolia Pet. Co.:		
Scarborough, 1, C-22	2	195
Gulf Prod. Co.:		
Scarborough, 1, C-22	1	56
Daugherty, 3, 74	2	742
Shell-Llano Oil Co.:		
Daugher.y, 1, C-22	5	287
Shell-Danciger:		
Daugherty, 3, 74	2	86
Skelly Oil Co.:		
Daugherty, 22, 16	4	1,264
Tidal Oil Co.:		
Scarborough, 1, C-22	1	131
Prairie Oil & Gas Co.:		
Leck, 16, 74	1	356
Daugherty, 3, 74	1	174
Scarborough, 1, C-22	1	56
Warner-Quinlan:		
Leck, 3, 74	1	381
Total Leck Pool	28	4,508

O'Brien Pool

Marland Oil Co.:		
Morton-A, 10, B-12	1	163
Morton-B, 10, B-12	2	151
Wentz Oil Corp.:		
Morton, 10, B-12	1	180
Simms Oil Co.:		
Sealey, 50, F	1	22
Richardson et al:		
Stockton, 50, F	1	110
Total O'Brien Pool	6	626
Total Winkler County	600	119,763

PECOS COUNTY
Week Ending October 8

Company, lease—	Wells	Bbls.
M. H. Black:		
Fee	1	13
California Co.:		
Yates—Lease 1	18	10,720
Smith—Lease 1, Sec. 37	3	407
Smith—Lease 1, Sec. 23	8	1,998
Smith—Lease 1, Sec. 21	4	1,519
Smith—Lease 2	1	114
Smith—Lease 3	13	2,167
Smith	1	1
Tippett—Lease 1	1	32
Continental Oil Co.:		
University-A	1	121
Cosby Drilling Co.:		
Smith	1	660
Dorn & McGee:		
Pecos Valley	1	25
Grayburg Oil Co.:		
Pecos River Bed	6	250
Salvage		350
Gulf Prod. Co.:		
All leases	39	16,727
Humble Oil & Ref. Co.:		
Smith-A	10	2,197
Smith-B	7	1,067
Kirby Pet. Co.:		
Tippett	2	60
Kirby Pet. and Edson:		
Tippett	1	229
Marland Oil Co.:		
Yates-A	6	797
Yates-A salvage		5,248
Mazda & Savoy:		
Smith	3	627
McCarty Oil Co.:		
Gray	1	10
Bennett	1	9
McMan Oil & Gas Co.:		
Smith-A	1	1,676
Smith-B	4	1,389
Smith-C	7	688
Tippett	2	283
Richardson	1	127
McMan and Marland:		
Yates	17	5,367
Mid-Kans. and Transcontinental:		
Yates-A	28	20,366
Yates-B	27	6,664
Yates-C	11	8,723
Yates-D	7	8,549
Yates-E	2	660
Yates-F	4	823
Yates-G	3	1,183
Yates-H	10	9,059
Smith	5	1,887
Smith-Taylor	18	4,708
W. A. Moncrief:		
University	1	31
Landreth Prod. Co.:		
University	1	104
J. D. O'Mara:		
Butz	1	33
Pecos Valley Oil Co.:		
Fee, Sec. 22, Blk. 26	2	45
Phillips Pet. Corp.:		
Monroe	2	180
Ramsey	2	951
Smith	2	660
Plymouth Oil Co.:		
Perry	1	24
Red Bank Oil Co.:		
Smith	5	493
Rowan-Tong and Independent:		
McDonald	1	46
Shell Pet. Co.:		
Tippett	11	2,062
Smith	11	1,444
Smith-B	1	604
Smith-D	4	598
Smith-E	1	17
Bower-University-C	1	212
Simms Oil Co.:		
Smith	7	6,485
Skelly Oil Co.:		
Tippett	2	233
Taylor-Link:		
University	2	402
Total Pecos Field	334	132,124

SALESMANSHIP FASHIONS SHOW GREAT CHANGE

(Continued from Page 34)

us," was the answer. "I want to do nothing this time but make friends, put across that idea and let it soak in. I want to get them to thinking. My theory is that after that we won't have to sell our goods to them. They'll sell the goods to themselves."

"Well," returned the manager dubiously, "go ahead. Do it your own way."

And It Worked Out All Right

Mr. Davis made a rather leisurely trip. He devoted all his time to friendly presentations of his case. His own enthusiasm, his thorough faith in his goods and his conviction that his house was peculiarly equipped to serve this territory, were infectious. Repeatedly he was asked to take an order. Each time he good-naturally but steadfastly refused. "I'm not here to sell goods this time," he smiled. "I merely want you to see the situation as it really exists. I don't want you to buy until after you have thought it all over and tested the truth of what I have said. I'll be back in three months."

And he did go back in three months. He got contracts from practically all the men he had visited and profitable business thus gained proved permanent.

"Just what is the thing that enables you to sell good, aside from the assumed fact that the thing you sell has merit?" Mr. Davis was asked.

"There's nothing remarkable about it," was the reply, "and you'll find the methods of most of the successful salesmen today are essentially the same as my own, although some of them may not realize it. To begin with, I believe in the thing I sell. I never make unfriendly comments about the products of others. I like friends, not merely because friendships are valuable business assets, but because I get a genuine pleasure out of human contacts. Sales after all are just a by-product of these friendships. If for any reason a man ceases to be my client, I see to it that he shall not cease to be my friend. The day of the high-powered salesman and of the man who depends upon lavish entertainment and human weaknesses to make sales is over."

COMPRESSOR STATION EXPANSION PROGRAM

A 4,000-horsepower natural gas compressor station will be erected by Cities Service Gas Co. at a point midway between Wichita and Ottawa, Kans., on the 20-inch line from the Texas Panhandle. An additional 1,000-horsepower unit also will be installed at the Wichita compressor station. This will give a total of 33,000 horsepower on the 450-mile natural gas pipe line extending from Pampa, Tex., to Ottawa, Kans.

A 500-horsepower unit will be installed at the Cambridge compressor station to facilitate delivery of gas from the Oklahoma gas fields.

It is estimated that the additional facilities will be completed by December 1. These projects are in line with the company's expansion program to provide an adequate supply of natural gas to its many domestic and industrial customers.

The 20-inch line now under construction from the Dilworth station in northern Oklahoma to the Marshall and Lovell Fields will provide an additional supply of gas, which will be transported directly into the company's main line system and will be available to all distribution centers in Kansas, Missouri and Nebraska.

CIMARRON UTILITIES PROJECT

Several car loads of gas pipe have been unloaded at Forgan, Turpin and Floris, Okla., for use in construction by the Cimarron Utilities Co. of a gas supply line between Hooker, Forgan and Beaver.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 65)

Gulf Prod. Co.'s No. 68 McElroy, 771 ft. S of NE cor. on E line of its lease in Sec. 200, Blk. F, C.C. S.D.&R.G.N.G.	Top salt 1,175 ft.; shut down 2,988 ft.; swabbed 75 bbls. oil.
Gulf Prod. Co.'s No. 8 Waddell, 330 ft. N and W of SE cor., Sec. 2, Blk. B-24, School Land	Top salt 1,328 ft.; show oil 3,310-20 ft.; shut down 3,775 ft.
Humble O. & R. Co.'s No. 2-D University, 990 ft. from W and 330 ft. from S of NW Sec. 34, Blk. 30	Rigging up.
Simms-Atlantic's No. 2-F University, Sec. 45, Blk. 30, 2,310 ft. from N, 330 ft. from E, University	Rigging up.
The Texas Company's No. 3 University, 330 ft. N and E of SW of N half Sec. 46, Blk. 30, University Land	Location.
The Texas Company's No. 2 University-Beasly, 330 ft. S and E of NW of S half Sec. 46, Blk. 30, University Land	Location.
Tidal Oil Co.'s No. 2 University-D, 330 ft. S and W of NE cor. NW of SW Sec. 34, Blk. 30, University Land	Drlg. 295 ft.
Tidal Oil Co.'s No. 10 University, 859 ft. from W and 1,255 ft. from S line of SE, Sec. 47, Blk. 30, University Land	Drlg. 2,850 ft.
T. P. Coal & Oil Co.'s No. 2 University, 2,310 ft. from S, 1,650 ft. from W, Sec. 34, Blk. 30, University Land	Drlg. 2,240 ft.
CROCKETT COUNTY	
California Co.'s No. 3 Powell, Lease No. 1, 1,056 ft. N and 495 ft. E of SW cor., Sec. 62, Blk. BB, G.C. &S.F.	Drlg. 2,485 ft.
Eppenaur et al's No. 2 Noelke, 500 ft. N and 1,250 ft. E of SE cor., Sec. 64, Blk. 1, I.&G.N.R.R. Sur.	Top salt 720 ft.; drlg. 2,145 ft.; show oil 1,655 ft.
Lewis & Daniels' No. 1 Pecos River Bed, 19 yards S and 37 degrees E of NW cor., Sec. 33, Blk. 1, I.&G.N. Sur.	Shut down 1,355 ft.
W. W. Donnelly & Young's No. 1 Middiebuster, C Sec. 11, Blk. 9, D.&S.E. Sur.	7,000,000 ft. gas at 1,663 ft.; shut down 1,755 ft.
Moncrief's No. 3 Todd, 330 ft. from S and E, Sec. 29, Blk. VV	Shut down 1,230 ft.
Taylor-Link's No. 3 Powell, 1,000 ft. S of No. 2, Sec. 52, Blk. BB, E.L.&R.R. Sur.	Top pay 2,637 ft.; total depth 2,643 ft.; 125 bbls. first 24 hrs.
CULBERSON COUNTY	
Grisham & Hunter Oil Corp.'s No. 1 fee, 330 ft. from S and W of Sec. 14, Blk. 59, T.&P.	Drlg. 540 ft.
Hickey & Stiver's No. 1 C. O. Finley, 600 ft. N and 1,980 ft. W. Sec. 20, Blk. 82	Small show oil 1,331 ft.; shut down 2,260 ft.; hole full water; elev. 3,874 ft.; shut down for 30 days.
West Coast Oil & Exploration Co.'s No. 1 McGregor, C NW, Sec. 14, Blk. 81	Slight show oil 740 ft.; shut down 825 ft.
Scott & Dittman's No. 1 Miller, 1,160 ft. N and 2,480 ft. E. Sec. 1, Blk. 97, Public School Land	Rainbow 1,056 ft.; 300 ft. sulphur water 1,725 ft.; oil show 2,528 ft.; hole full sulphur water; running 6-in. casing; drlg. 3,448 ft.
ECTOR COUNTY	
Anderson's No. 1 fee, 1,320 ft. E along N line, Sec. 19, and 150 ft. N at right angles with line, Sec. 18, Blk. B-16, Public School Land	Moving in material.
R. R. Penn et al's No. 1 Kloh-Rumsey, 330 ft. N and 2,640 ft. E of SW, Sec. 7, Blk. 44, Twp. 3s, T.&P. R.R. Sur.	Top salt 1,230 ft.; 3 bailers water 845-65 ft., red sand; total depth 3,732 ft.; top pay 3,718 ft.
EL PASO COUNTY	
Laytex's No. 1 Malone, 2,200 ft. SW and NW, Sec. 46, J. M. Day Sur.	Drlg. 1,310 ft.
EDWARDS COUNTY	
A. M. Griffith's No. 1 Wardlow, Sec. 60, V-8, J. C. Clift Sur.	Shut down 3,000 ft.
FISHER COUNTY	
Cranfill & Reynolds' No. 1 Barrett, Sec. 191, Blk. 1, 330 ft. from S and W of NE, B.B.B.&C.Ry.	Drlg. 1,360 ft.
Cranfill & Reynolds' No. 1 Texas Cement, Sec. 10, 330 ft. from N and W of most westerly NW cor.	Drlg. 2,610 ft.
Landreth Prod. Corp.'s No. 2 Cooper, 330 ft. S and W of NE cor. Sec. 116, Blk. 1, H.&T.C.R.R. Sur.	Location.
Magnolia Pet. Co.'s No. 1 Lee, Sec. 357, 2,310 ft. from N and 4,286 ft. from W	Set 6-in. casing 3,282 ft.
Midwest Oil Co.'s No. 1 Steele, 660 ft. from S, 440 ft. from W, Sec. 210, Blk. 1	Drlg. 2,925 ft.
H. Riley's No. 1 J. H. Veatch, 250 ft. S and 990 ft. E of NW cor., Sec. 4, English Sur.	Drlg. 3,100 ft.
Roeser-Pendleton and Amerada's No. 1 First Nat'l Bank of Waco, 660 ft. N and 600 ft. W of SE cor. NE of Sec. 204, B.B.B.&C. Sur.	Location.
GAINES COUNTY	
Louisiana O. & R. Co.'s No. 1 Ralph, 1,320 ft. from S and W of Sec. 7, Blk. A-28, Public School Land	Bldg. rig.
GARZA COUNTY	
Bell Thompson's No. 1 Tuffing, 330 ft. from S, 2,310 ft. from E, Sec. 10, Blk. 6, H.&G.N.	Shut down 2,610 ft.

Paul Steed et al's No. 1 Boren, Sec. 136, Blk. 5, 330 ft. from N, 990 ft. from E, H.&G.N.R.R. Sur. ..... Shut down 2,346 ft.; top pay 2,509 ft.; est. 20 bbls. on pump.

GLASSCOCK COUNTY

The California Co.'s No. 3 Currie, 990 ft. S and 2,310 ft. W of NE cor., Sec. 219, Blk. 29, W.&N.W.R.R. Sur.. Coring at 1,870 ft.

California Co.'s No. 1 Jones, 330 ft. S from N and E lines, Sec. 25, Blk. 33, Twp. 2s, T.&P. Sur. ..... Rig.

Chal Daniel et al's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor., Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur... Shut down 1,120 ft.

Fuhrman's No. 1 McDowell, 330 ft. from S and 1,650 ft. from E Sec. 24, Blk. 34, Twp. 2s, T.&P. ..... Top salt 1,065 ft.; drlg. 1,145 ft.

Glasscock et al's No. 1 Edwards, 330 ft. from S, 1,650 ft. from E, Sec. 18, Blk. 33, Twp. 2s, T.&P.R.R. Sur.. Rigging up.

Houston Oil Co.'s No. 1 McDowell, 330 ft. from N and 2,310 ft. from E, Sec. 30, Blk. 33, Twp. 2s. ..... **Shut down 2,603 ft.**

Kirby Pet. Co.'s No. 1 Baker, 330 ft. from N and W lines of Sec. 23, Blk. 33, Twp. 2s, T.P. Sur..... Top pay 2,090 ft.; increase in oil at 2,150 and 2,235 ft.; shut down 2,275 ft.

Kirby Pet. Co.'s No. 2 Phillips, 330 ft. from N and W, Sec. 23, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Cleaning out 2,286 ft.

Landreth et al's No. 1 Huston, Sec. 29, Blk. 35, Twp. 2s, 330 ft. from S, 2,310 ft. from E, T.&P. Sur. ..... Bailing water 2,265 ft.; set 8-in. casing 2,211 ft.

Lion O. & R. Co.'s No. 2 Coffee, 330 ft. from N and 990 ft. from E of Sec. 22, Blk. 33, Twp. 2s ..... Drlg. 1,010 ft.

Midwest Oil Co.'s No. 1 Edwards, 330 ft. from S, 2,259 ft. from E, Sec. 20, Blk. 34, T.&P.R.R. Sur. ..... Drlg. 3,139 ft.

Schermerhorn Oil Co.'s No. 2 Phillips, 330 ft. from N and 990 ft. from E of Sec. 23, Blk. 33, Twp. 2s..... Drlg. 1,855 ft.

Shell Pet. Corp.'s No. 1 Coffee, 330 ft. from S and 1,650 ft. from E of Section 15, Blk. 33, Twp. 2s ..... Drlg. 1,717 ft.

Shell Pet. Corp.'s No. 1-B Kloh-Rumsey, 330 ft. from N and W of Sec. 11, Blk. 33, Twp. 3s, T.&P. ..... Location.

Simms Oil Co.'s No. 1 Coffee, 330 ft. from N and 1,650 ft. from E of Sec. 22, Blk. 33, Twp. 2s, T.&P. ..... Rig.

E. L. Smith Oil Co.'s No. 2 Coffee, 330 ft. from S and 990 ft. from E of Sec. 15, Blk. 33, Twp. 2s, T.&P.... Rig.

E. L. Smith's No. 1 Coffee, 330 ft. from S and E of Sec. 15, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 1,965 ft.

Sun Oil Co.'s No. 2 Phillips, 330 ft. from S and W lines Sec. 14, Blk. 33, Twp. 2s, T.P. Sur. ..... Drlg. 2,200 ft.

Sun Oil Co.'s No. 3 Phillips, 2,310 ft. from E and 330 ft. from S of Sec. 14, Blk. 33, Twp. 2s, T.&P. ..... Shut down 605 ft.

Sun Oil Co.'s No. 4 Phillips, 330 ft. N and 990 ft. W of SE cor. Sec. 14, Blk. 33, Twp. 2s, T.&P.R.R. Sur. .... Location.

Texas State Oil Co.'s No. 1 Coffey, 330 ft. from S and 990 ft. from E, Sec. 19, Blk. 34, Twp. 2s ..... **Shut down 2,461 ft.**

World Oil Co.'s No. 2-C McDowell, Sec. 21, Blk. 34, Twp. 2s, 330 ft. S and 2,310 ft. E of NW cor..... Shut down for orders.

HOWARD COUNTY

American Maracaibo Co.'s No. 3-A Settles, Sec. 6, Blk. 32, Twp. 2s, 777 ft. from N, 990 ft. from W, T.&P. R.R. Sur. ..... Drlg. 1,622 ft.

Continental Oil Co.'s No. 6-C Chalk, 1,520 ft. from N and 2,440 ft. from E, Sec. 140, Blk. 29, W.&N.W. R.R. Sur. ..... Drlg. 1,210 ft.

Continental Oil Co.'s No. 1 Kloh-Rumsey, 990 ft. S and 330 ft. W NE cor., Sec. 13, Blk. 33, Twp. 2s, T.&P. R.R. Sur. ..... Drlg. 2,181 ft.

Continental Oil Co.'s No. 2 Kloh-Rumsey, 2,310 ft. S, 330 ft. W of NE cor. Sec. 13, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 1,600 ft.

Continental Oil Co.'s No. 3 Kloh-Rumsey, 1,650 ft. S and 330 ft. W of NE cor. Sec. 13, Blk. 33, Twp. 2s, T.&P. Sur. ..... Top pay 2,181 ft.; total depth 2,211 ft.; 1,200 ft. oil in hole; swabbed 208 bbls. in 8 hrs.

Continental Oil Co.'s No. 4 Kloh-Rumsey, 2,310 ft. S and 1,650 ft. W of NE cor. Sec. 13, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Location.

Continental Oil Co.'s No. 5 Kloh-Rumsey, 2,310 ft. S and 990 ft. W of NE cor. Sec. 13, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Location.

Continental Oil Co.'s No. 9-A Settles, 220 ft. from N, 660 ft. from E, Sec. 135, Blk. 29, W.&N.W.R.R. Sur. ..... Drlg. 1,925 ft.

Cosden Oil Co.'s No. 6 Roberts-A, 200 ft. N and E of SW cor., Sec. 129, Blk. 29, W.&N.W.R.R. Sur. ..... **Shut down 1,456 ft.**

Godley Oil Co.'s No. 2 Hooks, 1,980 ft. S and 200 ft. E of NW cor. Sec. 140, Blk. 29, W.&N.W.R.R. Sur. ..... Location.

Group No. 1 & Continental Oil Co.'s No. 7-A Settles, 1,650 ft. N and 2,310 ft. W of SE cor. Sec. 135, Blk. 29, W.&N.W.R.R. Sur. ..... Drlg. 1,520 ft.

Group No. 1 & Continental Oil Co.'s No. 8-A Settles, 990 ft. N and 2,310 ft. W of SE cor. Sec. 135, Blk. 29, W.&N.W.R.R. Sur. ..... Location.

Humble's No. 5 Clay, Sec. 138, Blk. 29, 330 ft. from S, 990 ft. from W ..... Shut down 1,830 ft.; 200 ft. oil in hole; show oil 1,820 ft.

Gulf Prod. Co.'s No. 8 Clay, 330 ft. S and 1,650 ft. W of NE cor. W half Sec. 155, Blk. 29, W.&N.W.R.R. Sur... Cleaning out 1,857 ft.; swabbed 135 bbls.

Magnolia Pet. Co.'s No. 13 Dora Roberts, 2,440 ft. N and 1,650 ft. E of SW cor. Sec. 136, Blk. 29, W.&N.W. Sur. ..... Shut down 2,927 ft.; set 8¼-in. casing.

Marland Prod. Co.'s No. 3 Clay-F, 250 ft. S and 660 ft. W of NE cor., Sec 138, Blk. 129, W.&N.W.R.R. Sur... Shut down 2,675 ft. with show oil 2,595-2,675 ft.

Merriwether's No. 1 Smith, 150 ft. from S, 2,490 ft. from W, Sec. 45, Blk. 33 ..... Shut down 1,100 ft.

Merrick & Lamb's No. 9 Clay, 660 ft. from S and 360 ft. from E, Sec. 126, Blk. 29 ..... Show oil 1,745-60 ft.; total depth 3,230 ft.; preparing to pump; shot 300 qts. from 3,083-3,164 ft.; bridged back to 2,475 ft.; shot 100 qts. from 2,475-2,500 ft.; cleaning out and testing.

Moody Oil Corp.'s No. 29-B, Sec. 137, Blk. 29, 330 ft. from N and 1,650 ft. from W ..... Shut down 248 ft.

Moody Oil Corp.'s No. 18-B Roberts, 280 ft. S and 2,280 ft. E NW cor. Sec. 137, Blk. 29, W.&N.W.R.R. ..... Shut down 1,625 ft.

Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 ..... Shut down 261 ft.

Moody Oil Corp.'s No. 19-E Roberts, 190 ft. from N and 2,310 ft. from E, Sec. 136, Blk. 29 ..... Top pay 1,325 ft.; total depth 1,413 ft.; 250 ft. oil in hole.

Moody Oil Corp.'s No. 20-E Roberts, 1,650 ft. S, 2,310 ft. W of NE Sec. 136, Blk. 29, W.&N.W.R.R. Sur..... Elevation 2,787 ft.; spudding.

Plymouth Oil Co.'s No. 4 Abrams, 330 ft. from N and 1,650 ft. from W, Sec. 5, Blk. 32, Twp. 2s ..... Top pay 2,480 ft.; shut down 2,519 ft.; plugged back 2,505 ft.; pumped 20 bbls., 15 per cent water, in 24 hrs.

Plymouth Oil Co.'s No. 5 Abrams, Sec. 5, Blk. 32, Twp. 2s, 1,650 ft. from N, 330 ft. from W, T.&P..... Top pay 2,205 ft.; total depth 2,281 ft.; to test.

Plymouth Oil Co.'s No. 6 Abrams, Sec. 5, Blk. 32, Twp. 2s, 1,650 ft. from S, 330 ft. from W, T.&P..... Underreaming 10-in. casing 980 ft.

Plymouth Oil Co.'s No. 7 Abrams, 2,310 ft. from N, 330 ft. from W, Sec. 5, Blk. 32, Twp. 2s, T.&P. Sur..... Rigging up.

Pure Oil Co.'s No. 1-A Scrivner, 990 ft. from W and 330 ft. from S of Sec. 4, Blk. 32, Twp. 2s..... Location.

Pure Oil Co.'s No. 2 Scrivner, 330 ft. from S and 1,650 ft. from W, Sec. 4, Blk. 32, Twp. 2s, T.P.R.R. Sur... Location.

Schermerhorn Oil Co.'s No. 1 Abrams, 2,310 ft. from S and 1,650 ft. from W, Sec. 13, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 2,010 ft.

Shell Pet. Corp.'s No. 2 Abrams, Sec. 13, Blk. 33, Twp. 2s, 2,310 ft. from S, 990 ft. from E, T.&P. ..... Drlg. 1,643 ft.

Shell Pet. Corp.'s No. 2-A Roberts, 1,320 ft. from N, 1,650 ft. from W, Sec. 156, Blk. 29, W.&N.W.R.R. Sur..... Top pay 2,957 ft.; total depth 2,972 ft.; cleaning out.

Simms Oil Co.'s No. 1 Clay, 330 ft. from S and 1,650 ft. from W, Sec. 127, Blk. 29, W.&N.W.R.R. Sur. ..... Show oil 2,490 ft.; drlg. 2,770 ft.

Simms Oil Co.'s No. 2 Clay, Sec. 127, Blk. 29, 300 ft. from S and 2,340 ft. from W ..... Location.

Ward Oil Co.'s No. 13 Roberts, 2,430 ft. N and 1,590 ft. E of SW cor. Sec. 137, Blk. 29, W.&N.W.R.R. Sur..... Top pay 1,330 ft.

Ward Oil Co.'s No. 14 Roberts, 2,430 ft. from S, 2,010 ft. from W, Sec. 137, Blk. 29 ..... Total depth 1,280 ft.

Ward Oil Co.'s No. 15 Roberts, 2,430 ft. from S and W, Sec. 137, Blk. 29 ..... Drlg. 200 ft.

Witherspoon's No. 3 Abrams, 920 ft. S, 723 ft. E, Sec. 3, Blk. 32 ..... Top pay 2,280 ft.; total depth 2,442 ft.

HUDSPETH COUNTY

California Co.'s No. 1 University, 3,821 ft. N and 2,554 ft. E of SW cor., Sec. 19, Blk. E ..... Total depth 2,400 ft.

George Richardson's No. 1 Paxton, 2,640 ft. from N and W, Sec. 9, Blk. 16 ..... Shut down 205 ft.

Western States Oil Co.'s No. 1 Moore, C SE Sec. 16, Blk. 71, Twp. 6, T.&P. Sur. ..... Shut down 2,685 ft.

Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW, Sec. 12, Blk. 18 ..... Fishing 3,140 ft.

IRION COUNTY

Banner's No. 2 Nutt, Subdivision 5, 150 ft. from N and E of W half Gonzales County School Lands ..... Location.

Brown & Fox's No. 2 Tankersley, 160 ft. from N and 500 ft. from E lines of S half of Sec. 712, F. Willig Sur. ..... Location.

Crawford Oil Co.'s No. 1 Williams, 450 ft. from N, 150 ft. from W, Subd. 8 ..... Shut down 1,085 ft.

Carl Cromwell's No. 1 Nutt, 150 ft. from N, 1,161 ft. from W. Subd. 6, Gonzales County School Land ..... Plugging back to 1,472 ft.

Carl Cromwell's No. 1 Tankersley, 2,490 ft. from S and E, Sec. 1,219, T.C.R.R. Sur. ..... Rigging up.

Fox & Miller's No. 1 Tankersley, 150 ft. from S, 1,250 ft. from W, Sec. 711, I. G. Resig. ..... Preparing to plug and abandon 1,442 ft.

Kimbrough & Flinchbaugh's No. 1 Tankersley, 160 ft. S and 200 ft. W of NE cor. S half, Sec. 712, Ford Willig Sur. ..... Show oil 1,318-29 ft.; total depth 1,335 ft.; averaging 60 bbl. daily 37 degrees gravity oil; shut down for storage.

Kingwood Oil Co. et al's No. 1 J. D. Suggs, SE NW SE Sec. 19, Blk. 7, H.&T.C. Sur. ..... Show gas 7,656 ft.; set 4½-in. casing 7,550 ft.; drlg. 7,686 ft.

Simms Oil Co.'s No. 1 Carter, Sec. 87, Blk. 1, 330 ft. from N and E, H.&T.C.R.R. Sur. ..... Drlg. 1,105 ft.

J. A. Starkweather's No. 1 Lindley, Sec. 1,160½ ,900 ft. from S, 150 ft. from E, H.&T.C. Sur. on E ..... Drlg. 587 ft.

P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County ..... Drlg. 3,785 ft.

JEFF DAVIS COUNTY

J. K. Hughes Dev. Co.'s No. 2 Means, 1,622 ft. N line, 600 ft. W line, Sec. 345, H.&T.C. Sur. ..... Show gas 3,271 ft.; fresh water 3,000-05 ft.; underreaming 5 3/16-in. casing; shut down 4,005 ft.; 600 ft. fresh water 4,000-26 ft.

JONES COUNTY

J. H. Adsit et al's No. 1 Swenson, C of NE of SE, Sec. 192, B.B.B.&C. Sur. ..... Drlg. 1,785 ft.

Cosden-Herbert et al's No. 3 Bickley, 330 ft. N and W of SE cor. of S half NW, Sec. 50, Blk. 18 ..... Rig.

Cranfill-Reynold's No. 1 Stevens, 990 ft. from N and 3,630 ft. from W of John McMullen Survey 337 ..... Location.

Sedgwick O. & G. Co.'s No. 1 Morrison, 300 ft. from S and 1,320 ft. from W of Sec. 9, Blk. 1, T.&N.O. ..... Drlg. 2,515 ft.

Shabeen et al's No. 1 King ..... Shut down 1,650 ft.

KENT COUNTY

White & Smith's No. 1 Pursley estate, 1,320 ft. from E and 2,640 ft. from S of Sec. 8, Blk. H, H.&T.B. ..... Fishing 300 ft.

KIMBLE COUNTY

C. L. Bryant et al's No. 1 Lambert, 700 ft. from N and W line of F. Lotta Sur. ..... Shut down 800 ft.

McLean & Jamison's No. 1 Cannon, 1,940 ft. N and 300 ft. W of SE cor. Robert Cochran Sur. ..... Shut down 1,504 ft.

LOVING COUNTY

Humble Oil & Ref. Co.'s No. 1 Kloh, 2,640 ft. N and W Sec. 35, Blk. 55, Twp. 2, T.&P.R.R. Sur. ..... Underreaming at 1,120 ft.; total depth 1,225 ft.

Independent O. & G. Co.'s No. 1 Wheat, 330 ft. each way from W cor. of Sec. 85, Blk. 1, W.&N.W. ..... Water well.

Lockhart Co.'s No. 3 Allen, 330 ft. from NE, 1,650 ft. from NW, Sec. 82, Blk. 33, H.&T.C. ..... Rigging up standard tools.

Lockhart & Co.'s No. 3 Hubbard, 330 ft. from NE and SE, Sec. 83, Blk. 33, H.&T.C. ..... Top salt 775 ft.; drlg. 2,750 ft.

Lockhart & Co.'s No. 4 Hubbard, 1,660 ft. NE, 330 ft. NW, Sec. 33, Blk. 33, H.&T.C. ..... Cem. 10-in. casing 690 ft.; drlg. 2,400 ft.

Lockhart & Co.'s No. 1 Hayzell, 2,792 ft. SW of NE line and 660 ft. NW of SE line, Sec. 84, Blk. 33, H.&T.C. R.R. Sur. ..... Top salt 700 ft.; top black lime 4,177 ft.

LYNN COUNTY

Lubewell Oil Co.'s No. 1 May, 2,310 ft. S, 2,310 ft. W, Sec. 10, Blk. 7, E.L.R.R. ..... Shut down 190 ft. for casing.

George McCamey's No. 1 Edwards, 165 ft. N and E, Sec. 5, Blk. 2, L.S.&W. Sur. ..... Top salt 2,140 ft.; oil show 1,580-90 ft.; cem. 8-in. casing 2,500 ft.; shut down 4,650 ft.

MENARD COUNTY

I. C. Barnett's No. 2 Callan, Sec. 1, 1,050 ft. from S, 1,190 ft. W ..... Shut down 540 ft.

MITCHELL COUNTY

Gibson & Johnson's No. 1 Scott, 150 ft. S and E of NW cor. Sec. 14, Blk. 17, S.P.R.R. Sur. ..... Location.

Gibson & Johnson's No. 2 Scott, 150 ft. N and 2,490 ft. W of SE cor. Sec. 7, Blk. 19, Lavaca Navigation Co. ..... Location.

Gibson & Johnson's No. 3 Scott, 150 ft. S and 2,490 ft. W of NE Sec. 11, Blk. 19, Lavaca Navigation Sur. ..... Location.

Seiger's No. 1 Scott, C of NE of SW, Sec. 36, Blk. 17, S.P.R.R. Sur. ..... Shut down 730 ft.

Teas & Wheeler's No. 1 Radford, 1,320 ft. N and W of Sec. 1, Blk. 27, T.&P. Sur. ..... Shut down 4,310 ft.

NOLAN COUNTY

Gibson & Johnson's No. 1 Bond, 1,320 ft. from N and 1,980 ft. from E of Sec. 42, Blk. 20, T.&P. ..... Drlg. 875 ft.

Phillips Pet. Co.'s No. 1 Plunkett, 330 ft. N and W of SE cor. NW, Sec. 66, Blk. 23, T.&P. Sur. ..... Hole full sulphur water 3,685 ft.; shut down 4,105 ft.

PECOS COUNTY

Anna Bell Oil Co.'s No. 1 Hollingsworth, 150 ft. N and W of C Sec. 24, Blk. 11, H.&G.N.R.R. Sur. ..... Location.

California Co.'s No. 3 Smith, Lease No. 5, Sec. 16, Blk. 194, 337 ft. from S and 166 ft. from E, G.C. &S.F. Sur. ..... Shut down 1,035 ft.

California Co.'s No. 4 Smith lease No. 1, 1,018 ft. from N and 330 ft. from E, Sec. 37, Blk. 194, G.C.&S.F. ... Drlg. 700 ft.

California Co.'s No. 5 Smith, Lease No. 1, 330 ft. from N, 2,405 ft. from W, Sec. 21, Blk. 194, G.C.&S.F. ..... Top pay 1,316 ft.; total depth 1,414 ft.; flowed 155 bbls. hour.

FRICK-REID at El Dorado, Kansas

El Dorado, Butler County, Kansas, has been prominent in oil since 1916, but it came into high prominence following the opening of the Towanda pool, west of the city, which did so much to keep the Allies supplied with oil in 1917 and 1918, the crucial years of the war in Europe. Towanda furnished some of the largest high-grade oil wells ever drilled in the United States up to that time. The County of which El Dorado is the dominant city has produced 226,000,000 barrels from February 1916 to June 30, 1929, a period of 16 years. The first oil well in the El Dorado field was drilled by Wichita Natural Gas Company on Stapleton farm, N.E. S.E. Section 29-25-5. It had production at 664-700 feet, but this was passed up and the drill set to 2,465 feet where a 200-barrel well was completed. In 1914 a well was drilled in Section 1-26-4 to 2,650 feet, but it was dry. In May 1917 the Trapshooters Oil Company, drilling about a mile from the dry hole, opened up the Towanda pool with a 20,000-barrel well.

W. F. KAISER
Store Manager at El Dorado

FRICK-REID SERVICE RUBBER BELTING
Our Own Specifications

BEAUMONT IRON WORKS COMPANY
Dreadnaught Rotary Drilling and Pumping Equipment

JONES & LAUGHLIN STEEL CORPORATION
Tubular Goods, Seamless and Lapwelded

J. P. RATIGAN
"Sure Grip" Line of Pumping Equipment

NATIONAL TRANSIT PUMP & MACHINE COMPANY
Pumps and Pipe Line Equipment

WILLIAM POWELL COMPANY
Valves for the Oil Industry

JOHN A. ROEBLING'S SONS COMPANY
Wire Lines and Welding Wire

JOSEPH REID GAS ENGINE COMPANY
Two and Four Cycle Gas Engines, Pumping Powers, Refinery Equipment

ROSSENDALE-REDDAWAY COMPANY
"Camel Hair" and Canvas Stitched Belting

WALWORTH COMPANY
Fittings and Valves for all branches of the Oil Industry

WHITLOCK CORDAGE COMPANY
Manila Cordage, Including Drilling Cables, Bull Ropes, Cat Lines, Etc.

AXELSON MACHINE COMPANY
Sucker Rods, Pull Rods, Working Barrels, Etc.

DONOVAN BOILER WORKS
Oil Country Boilers and Tanks

FRICK-REID
SUPPLY CORPORATION

COVERS THE FIELD WITH WELL MANAGED STORES FROM THE ROCKY MOUNTAINS TO THE ATLANTIC COAST

Pittsburgh - - - - - - - Tulsa

California Co.'s No. 1 University-Landrum, Sec. 12, Blk. 18, 330 ft. from S, 1,065 ft. from E, University Land.. Shut down 1,698 ft.; est. 6,000,000 ft. wet gas from 1,613-25 ft.; sprayed 20 bbls. oil per day.

Continental Oil Co.'s No. 2 University, 330 ft. S and 1,680 ft. E of NW cor. of Sec. 6, Blk. 17, University Land ..... Location.

Continental Oil Co.'s No. 3 University, 330 ft. S and 2,371 ft. E of NW cor. Sec. 6, Blk. 17, University Land ..... Location.

Continental Oil Co.'s No. 4 University, 330 ft. S and E of NW cor. of Sec. 6, Blk. 17, University ..... Location.

Continental Oil Co.'s No. 5 University, 330 ft. S and 1,020 ft. E of NW cor. Sec. 6, Blk. 17, University Land ..... Location.

Continental Oil Co.'s No. 6 University, 330 ft. S and 3,031 ft. E of NW cor. of Sec. 6, Blk. 17, University Land ..... Location.

Condor Oil Co.'s No. 1 Wangerin estate, 150 ft. S and W of NE cor. Sec. 52, Blk. 11, H.&G.N.R.R. Sur. ..... Location.

Corzelius Bros. et al's No. 1 Cordova, 2,490 ft. from N and 1,515 ft. from W Sec. 29, Blk. 11, H.&G.N.R.R. Sur. ..... Location.

Cosby Drlg. Co.'s No. 1 Fort Stockton Land Co., 330 ft. from N and E of Sec. 34, Blk. 11, H.&G.N. ..... Running 12½-in. casing; total depth 760 ft.

Cosden Oil Co.'s No. 1 McDonald, 350 ft. from N and E of Sec. 1, H.E.&W.T. ..... Shut down 110 ft.

Cowboy Evans' No. 1 Pecos Valley, 2,310 ft. from NW line, 990 ft. from SW line of Sec. 36, Blk. 3, H.&T.C. R.R. Sur. ..... Top salt 1,215 ft.; shut down 1,604 ft.; top pay 1,556 ft.; flowed 10 bbls. after standing 4 hrs.

Cranfill & Reynolds' No. 1 White, 330 ft. from S and W Sec. 104, Blk. 11 ..... Rig.

Ditman Drlg. Co. et al's No. 1 Cunningham, 330 ft. from N and E of Sec. 34, Blk. 11, H.&G.N. ..... Location.

Dixie Oil Co.'s No. 1 McKinzie, 3,300 ft. from N and 2,025 ft. from W of Sec. 15, Blk. 604, G.C.&S.F. ..... Location.

Gibson-Johnson's No. 1 Grace, 330 ft. N, 990 ft. from E, Sec. 3, Blk. 179 ..... Drlg. 1,950 ft.; show oil 1,795-1,820 ft.

Gulf Prod. Co.'s No. 1 State-Hale-A, 330 ft. S and W of NE cor., Sec. 16, Blk. 20, University Land..... Flowing sulphur water 1,535 ft.; drlg. 1,663 ft.

Gulf Prod. Co.'s No. 21-A Smith, 1,544 ft. N and 330 ft. W of SE cor. Sec. 28, Blk. 194, G.C.&S.F.R.R. Sur..... Drlg. 876 ft.

Gulf Prod. Co.'s No. 20-B Smith, Sec. 22, Blk. 194, 330 ft. from N, 2,322 ft. from E, G.C.&S.F. ..... Drlg. 1,583 ft.; flowed 30 bbls. in 2 hrs.

Gulf Prod. Co.'s No. 25 Yates, 1,015 ft. N and 8,083 ft. E of SW cor., R. C. School Land ..... Drlg. 1,175 ft.

Henshaw et al's No. 1 University, 330 ft. from N and W of NE. Sec. 13, Blk. 18 ..... Shut down 880 ft.

Henshaw et al's No. 2 University, 330 ft. from N and E lines of NW of NE of Sec. 13, Blk. 18 ..... Location.

Henshaw et al's No. 3 University, 330 ft. from S and E of NW of NE of Sec. 13, Blk. 18 ..... Location.

Henshaw et al's No. 4 University, 330 ft. from S and W of NW of NE of Sec. 13, Blk. 18 ..... Location.

Henshaw Oil Corp.'s No. 1 McDonald, 330 ft. from N and W of S 109 ac. of N 189 ac., Sec. 2, H.E.&W.T. .... Drlg. 1,405 ft.

Humble O. & R. Co.'s No. 11 M. A. Smith, 380 ft. from S and 2,150 ft. from E of Sec. 36, Blk. 194, G.C. &S.F. ..... Top pay 1,430 ft.; shut down 1,560 ft.; swabbed 200 bbls. in 24 hrs.

Independent & Rowan & Tong's No. 2 McDonald, 153 ft. from W line and 170 ft. from N line of S half NE Sec. 46, Blk. 12 ..... Drlg. 745 ft.

Independent & Rowan & Tong's No. 3 McDonald, 330 ft. from S and W line of NE Sec. 46, Blk. 12 ..... Drlg. 1,350 ft.

Jayhawk Oil Co.'s No. 1 Price, 1,310 ft. from W, 330 ft. from S, Sec. 6, Blk. 12, H.&G.N.R.R. Sur. ..... Top salt 610 ft.; drlg. 790 ft.

J. L. Kennedy's No. 1 Roberts, C of Sec. 78, Blk. 3, T.&P.R.R. Sur. ..... Drlg. 1,030 ft.

Sam Kitts et al's No. 1 Sherbino, 330 ft. from N and 990 ft. from W line, Sec. 52, Blk. C-4, G.C.&S.F.R.R.. Top salt 976 ft.; drlg. 2,000 ft.

Landreth Prod. Corp.'s No. 1 Cunningham, 235 ft. S and 275 ft. W of NE of S half of Sec. 32, Blk. 11, H.&G.N.R.R. ..... Location.

Landreth Prod. Corp. et al's No. 1 Smithpeter, 330 ft. N and 280 ft. W of SE cor. Sec. 31, Blk. 11, H.&G.N.R.R. Sur. ..... Location.

Landreth's Prod. Co.'s No. 1 University, 330 ft. from N and W lines of E half of SE, Sec. 13, Blk. 18, University Land ..... Shut down 950 ft.; estimated 66,000,000 ft. gas at 960 ft.; rig burned; shut in.

Landreth Prod. Co.'s No. 1-C University, 330 ft. from N and E, NW of SW of Sec. 31, Blk. 16 ..... Shut down 190 ft.

Landreth Prod. Co.'s No. 2-C University, 330 ft. from N and W of NW of SW, Sec. 31, Blk. 16 ..... Show oil and gas 975 ft.; drlg. 1,035 ft.

Landreth Prod. Co.'s No. 1-D University, 990 ft. from S and 990 ft. from W of Sec. 31, Blk. 16..... Drlg. 750 ft.

Landreth Prod. Co.'s No. 2-A McDonald, 330 ft. from N and E of Sec. 46, Blk. 12, H.&G.N. ..... Drlg. 445 ft.

Landreth & Dunning's No. 1 McDonald, 330 ft. N and E of SW cor. Sec. 40½, Blk. 12, H.&G.N.R.R. Sur. .... Location.

Landreth & Henshaw's No. 1 University-G, 330 ft. N and E of SW cor. Sec. 31, Blk. 16, University Land... Location.

Landreth & Henshaw's No. 2 University-G, 330 ft. N and W of SE cor. SE of SW Sec. 31, Blk. 16, University Land ..... Location.

Landreth & Henshaw's No. 3 University-G, 330 ft. S and W of NE cor. of SE SW Sec. 31, Blk. 16 ..... Location.

Landreth & World Oil Co.'s No. 2-B University, Sec. 13, Blk. 18, 660 ft. S of No. 1 University Land ..... Gas 1,165-75 ft.; increase 1,320-30 ft.; drlg. 1,470 ft.

Landreth Prod. & World Oil Co.'s No. 4-B University, 330 ft. S and W of NE SE NE Sec. 13, Blk. 18, University Land ..... Drlg. 685 ft.; setting 12½-in. casing 492 ft.

Landreth Prod. & World Oil Co.'s No. 5-B University, 330 ft. N and W of SE NE Sec. 13, Blk. 18, University Land ..... Water at 165 ft.; drlg. 454 ft.

Landreth Prod. Co.'s No. 3-B University, 330 ft. from S and E of NE Sec. 13, Blk. 18 ..... Drlg. 912 ft.; 40,000,000 ft. gas 910-12 ft.

Merrick & Bristow's No. 1 Neville, 1,650 ft. from S and 330 ft. from W of Sec. 42, Blk. 12, H.&G.N..... Shut down 545 ft.

Phillips Pet. Co.'s No. 4 Ramsey, 2,722 ft. from N and 1,980 ft. from E of Sec. 17, Blk. 199, G.C.&S.F. ..... Drlg. 480 ft.

Seminole Oil Co.'s No. 1 Pecos Valley, Sec. 22, Blk. 10, 360 ft. from SW, 2,280 ft. from SE, H.&G.N. Sur. .... Location.

Mauch & Kroger's No. 1 Holmes, Sec. 5, Blk. 178, T.C. Sur. ..... Shut down 1,442 ft.

Mazda Oil Co.'s No. 1 Cordova Union Land Co., 2,310 ft. from N and 990 ft. from E of Sec. 103, Blk. 11, H.&G.N. ..... Location.

McMan Oil & Gas Co.'s No. 5 Richardson, Sec. 107, 330 ft. N, 200 ft. W of SW cor., Sec. 101, T.C.R.R. Sur.... Top pay 1-,337 ft.; shut down 1,396 ft.; flowed 37 bbls. in 15 hrs.

Milham Exploration Co.'s No. 1 McDonald, 153 ft. from S and 170 ft. from E of N half of NW, Sec. 46, Blk. 12, H.&G.N. ..... Drlg. 725 ft.

Merrick-Bristow's No. 1 Neville, 330 ft. from S and W, Sec. 42, Blk. 12, H.&G.N.R.R. Sur. ..... Shut down 545 ft.

McMan Oil & Gas Co.'s No. 8-C Smith, 1,667 ft. S and 330 ft. W of NE cor., Sec. 25, Blk. 194, G.C.&S.F. R.R. Sur. ..... Drlg. 620 ft.

McMan Oil & Gas Co.'s No. 9-C Smith, 3,647 ft. S and 330 ft. W of NE cor. Sec. 25, Blk. 194, G.C.&S.F. R.R. ..... Drlg. 1,085 ft.

R. E. Moore's No. 1 Arnold, 1,320 ft. from S and 660 ft. from E lines of Sec. 18, Blk. 1, H.&T.C.R.R. ..... Shut down 1,218 ft.

Moncrief's No. 1 Clarkson, Sec. 84, Blk. 11, H.&T.N.R.R. Sur., 2,310 ft. from N and W..... Top salt 860 ft.

Moncrief et al's No. 1 Tippett, 330 ft. from S, 330 ft. E of C, Sec. 36, Blk. 12, H.&G.N. ..... Top salt 875 ft.

Moncrief's No. 5 Tippett, 330 ft. N and 200 ft. W of SW cor., Sec. 101, located in Sec 107, C.T.&M.C.R.R. Sur... Location.

Moncrief et al's No. 1 University, 1,470 ft. from N and 150 ft. from E, Sec. 27, Blk. 18, University Land.... Preparing to abandon 2,097 ft.

George Morgan's No. 2 Toborg, Sec. 539, Blk. 1, 150 ft. S of Moncrief's No. 1 ..... Drlg. 765 ft.

Mid-Kansas Oil & Gas Co.'s No. 7 Smith, 330 ft. N and 227 ft. E of NW cor., Sec. 21, Blk. 194, G.C.&S.F.... Shut down 735 ft.

Mid-Kansas Oil & Gas Co.'s No. 32 Yates-A, 225 ft. N of most southerly N line and 1,308 ft. E of most western E line, Sec. 32, Blk. 194, I. G. Yates, Sur. A-8,195 ..... Fishing 540 ft.

Mid-Kansas Oil & Gas Co.'s No. 3-E Yates, Sec. 59, Blk. 1, 1,335 ft. from N and 964 ft. from W, I.&G.N... Top pay 1,087 ft.; shut down 1,165 ft.; flowed 132 bbls. first 10 hrs.

S. B. Owen's No. 1 Masterson, 330 ft. NE of SW line and 330 ft. NW of SE of Sec. 104, Blk. 10, H.&G.N... Drlg. 715 ft.

J. D. O'Mara's No. 1 Bennett, Sec. 592, 1,460 ft. from S, 150 ft. from E, G.C.&S.F. ..... Fishing 875 ft.

J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur. ..... Shut down 825 ft.

Pecos Crude Oil Pur. Co.'s No. 3 Pecos Valley, 990 ft. from NW, 1,650 ft. from SW, Sec. 22, Blk. 10 ..... Top salt 1,115 ft.; top pay 1,610 ft.; 75 ft. oil in hole; show gas at 1,597 ft. and 1,626 ft.; total depth 1,950 ft.; flowed 125 bbls. in 72 hrs.

Perrin et al's No. 1 Eaton, 150 ft. each way from NE and NW lines, Sec. 27, Blk. 39, H.&T.C. Sur..... 18,000,000 ft. gas 1,490-1,502 ft.; spraying salt water from behind 8-inch casing set at 1,180 ft.; shut down 1,502 ft.; 5 3/16-in. casing set on bottom with last joint perforated; 18,000,000 ft. gas shut in.

Phillips Pet. Co.'s No. 2 Pryor, 660 ft. from N and W line, Sec. 78, Blk. OW ..... Top pay 1,325 ft.; shut down 1,397 ft.

Phillips Pet. Co.'s No. 3 Ramsey, 2,635 ft. from N and 1,070 ft. from E of Sec. 17, Blk. 194, G.C.&S.F..... Location.

Phillips Pet. Co.'s No. 4 Ramsey, 2,722 ft. from N and 1,980 ft. from E of Sec. 17, Blk. 194, G.C.&S.F. ..... Location.

B. J. Spikes' No. 1 George Brown, 2,490 ft. SE and SW line, Sec. 8, Blk. 3 ..... Show oil 1,180-90 ft.; shut down 2,359 ft.

Rector Oil Co.'s No. 1 State Land, 330 ft. N and W of SE cor. Sec. 106, Blk. 8, H.&G.N.R.R. Sur. ..... Location.

Red Bank Co.'s No. 1 Neville, 330 ft. from S and W Sec. 40, Blk. 12, H.&G.N. ..... Drlg. 910 ft., anhydrite.

M. M. Rowan's No. 1 University, NE Sec. 25, Blk. 16..... Drlg. 2,253 ft.

Schumaker et al's No. 1 Williams et al, 330 ft. N of middle of S line, Sec. 1, Blk. 117, G.C.&S.F..... Shut down 1,869 ft.

Shell Pet. Corp.'s No. 1 Owen et al, 220 ft. each way from E cor. Sec. 16, Blk. 5, H.&T.C. ..... Location.

Shell Pet. Corp.'s No. 1 Percival, 330 ft. from N and E of SE Sec. 199, Blk. 3, I.&G.N. ..... Location.

Sides & Cloyd's No. 2 Blackstone & Slaughter, C NW of Sec. 34, Blk. A-2, T.&C.R.R. Sur. ..... Rigging up.

Shell Pet. Corp.'s No. 2-C University Land, 330 ft. S and E of SW of NW Sec. 31, Blk. 16, University Land.... Drlg. 950 ft.

Shell Pet. Corp.'s No. 3-C University, 330 ft. N and W of SE of SW of NW Sec. 31, Blk. 16, University Land ..... Drlg. 420 ft.

Shell Pet. Corp.'s No. 4-C University, 330 ft. N and E of SW of SW NW of Sec. 31, Blk. 16, University Land ..... Drlg. 775 ft.

Southern Crude O. P. Co.'s No. 1 Jackson T-139, Sec. 28, Blk. 3, 1,487 ft. from NE, 2,519 ft. from SE cor..... Location.

Sun Oil Co.'s No. 1 University-Carlson, Sec. 34, Blk. 18, 990 ft. from N and 1,350 ft. from W, University..... Shut down 1,974 ft.; water 1,830 ft.

Sun Oil Co.'s No. 1 University-Toler, Sec. 25, Blk. 18, 330 ft. from N and 2,310 ft. from E ..... Oil show 1,410 ft.; shut down 1,420 ft.

Sun Oil Co.'s No. 2 University, Sec. 8, Blk. 17, 330 ft. from N and 353 ft. from W, University Land..... Shut down 1,715 ft.

Talbot et al's No. 1 Unsicker, 150 ft. each way from NE and SE cor. line of Sec. 25, Blk. 10, H.&G.N. Sur. ..... Material on ground.

Taylor-Link's No. 4 University, Sec. 31, Blk. 16, 990 ft. from N and 1,050 ft. from W ..... Top pay 1,605 ft.; 200 bbls. daily; drlg. 1,625 ft.

Taylor-Link's No. 5 University, 990 ft. from N and 330 ft. from W of Sec. 30, Blk. 16 ..... Shut down 545 ft.

Taylor-Link's No. 6 University, 330 ft. from N and 330 ft. from E of W half of SE, Sec. 13, Blk. 18 ..... Cleaning out 295 ft.

Taylor-Link Oil Co.'s No. 7 University Land, 330 ft. S and W of NE cor. of W half, Sec. 31, Blk. 16, University Land ..... Running 12½-in. casing; total depth 175 ft.

Taylor-Link Oil Co.'s No. 8 University, 330 ft. N and 2,310 ft. W of SE cor. Sec. 31, Blk. 16, University Land ..... Location.

Taylor-Link Oil Co.'s No. 9 University, 990 ft. N and 2,310 ft. W of SE Sec. 31, Blk. 16, University Land.. Location.

The Texas Co.'s No. 1 McDonald, NE cor. of SW, Sec. 46, Blk. 12 ..... Drlg. 1,210 ft., lime; top salt 680 ft.

The Texas Company's No. 2 McDonald, 330 ft. N and 775 ft. W SE cor. SW Sec. 46, Blk. 12, H.&G.N.R.R. Sur. ..... Location.

The Texas Company's No. 1 Graef, 2,329 ft. from N and 2,114 ft. from E of Sec. 44½, Blk. 12, H.&G.N.R.R. Sur. ..... Location.

Texas-Phillips' No. 1 Campbell, 1,620 ft. from SW, 330 ft. from SE, Sec. 46, Blk. 10, H.&G.N. ..... 1,000 ft. oil in hole; oil from 1,710-13 ft.; hole fills 250 ft. in 12 hrs.; 5,000 bbls. sulphur water 2,361 ft.; drlg. 2,361 ft.

Tidal Oil Co.'s No. 1 McDonald, 153 ft. from N and 170 ft. from E of S half NW, Sec. 46, Blk. 12 ..... Shut down 1,735 ft.; flowing sulphur water.

Tidal Oil Co.'s No. 2 McDonald, 330 ft. from S and E lines of S half NW, Sec. 46, Blk. 12 ..... Shut down 1,515 ft.

Tower & McKanna's No. 1 University, Sec. 14, Blk. 16, 2,310 ft. from N and E ..... Fishing 2,049 ft.

Transcontinental Oil Co.'s No. 1 University, NE NW SW Sec. 18, Blk. 18 ..... Top lime 1,155 ft.; drlg. 4,556 ft.

Trees Oil Co.'s No. 2 Trees, 330 ft. from N and W of SE cor. Sec. 43, Blk. 8, H.&G.N.R.R. Sur. ..... Drlg. 1,773 ft.

Trees Oil Co.'s No. 3 Trees, 330 ft. from S and W of Sec. 90, Blk. 8, H.&G.N. ..... Cellar.

R. D. Webb's No. 2 fee, 1,665 ft. from N and 951 ft. from E line of Sec. 312, L. P. Scott Sur. ..... Hole full sulphur water 1,600 ...; drlg. 1,610 ft.

World Oil Co.'s No. 1 University, 330 ft. from N and 2,310 ft. from E of Sec. 31, Blk. 16, University Land.. Drlg. 1,630 ft.; 4,000,000 ft. gas 1,630 ft.

Zoch et al's No. 1 Cordova Union Land Co., C of SW Sec. 81, Blk. 11, H.&G.N. ..... Rigging up.

PRESIDIO COUNTY

L. C. Brite's No. 4 Brite, 271 ft. from N, 1,188 ft. from E, Sec. 245, Blk. 4 ..... Shut down 670 ft.
Eastland Oil Co.'s No. 1 Tootie, C Sec. 17, Blk. 1, D.P. R.R. Sur. ..... Spudded; shut down.
T. P. Coal & Oil Co.'s No. 1 Bogel, 330 ft. S and W, Sec. 83, Blk. 8, G.H.&S.A. ..... Drlg. 2,030 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 1-C University, 2,598 ft. S and 250 ft. W of NE cor., Sec. 1, Blk. 2, University Land.. Top pay 2,903 ft.; 1,000 ft. fluid in hole; drlg. 6,585 ft.; show oil 6,310-12 ft.
Kemrow Co.'s No. 1 Sawyer Cattle Co., 1,320 ft. from N and 1,980 ft. from E line, Sec. 8, J. G. Robinson Sur. ..... Location.
Thomas & Brann et al's No. 1 Hughes, C NE of Sec. 7, Blk. 1, T.C.R.R. Sur. ..... Location.
Skelly Oil Co.'s No. 4 University-Grayson, Sec. 33, Blk. 8, 990 ft. W and 660 ft. N of No. 2 ..... Shut down 2,725 ft.

REEVES COUNTY

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W. of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. ..... Shut down 2,990 ft.
H. T. Hansford's No. 1 Williams, 150 ft. from S and W, Sec. 17, Blk. 6, H.&G.N. ..... Spudded and shut down.
Black & Fink's No. 1 Brooks, 1,980 ft. N and 660 ft. W, Sec. 16, Blk. 59 ..... Shut down 500 ft.
Southern Crude O. P. Co.'s No. 1 Kloh-Rumsey, 2,310 ft. N and W SE cor., Sec. 23, Blk. 51 ..... Drlg. 4,140 ft.
David R. Thompson's No. 1 A. A. Eddins, Sec. 9, Blk. C-1 ..... Drlg. by casing 5,490 ft.

RUNNELS COUNTY

Gibson-Johnson's No. 1 Woods, Sec. 529, 2,600 ft. from S and 300 ft. from E, T. T. Williams Sur. ..... Drlg. 1,005 ft.
Vacuum Oil Co.'s No. 4 McMillan, 555 ft. S and 717 ft. W of NE cor., Lot 22, Domingo Diaz Sur., No. 532.. Location.

SCHLEICHER COUNTY

Fort McKavet's No. 1 Tisdale, Sec. 1,499, River Section, 3,630 ft. from S, 150 ft. from W ..... Set 6-in. cassing 3,023 ft.; shut down 3,500 ft.
Interstate's No. 1 Whitten, 1,320 ft. from N and W, Sec. 35, Blk. LL, T.C.R.R. Sur. ..... Hole slopped over with oil at 4,925 ft.; made one good flow; set 6-in. casing 5,050 ft.; shut down 5,400 ft.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A.R.R. ..... Rigging up.
Underwood's No. 1 Tisdale, 2,095 ft. N and 1,186 ft. from E, Sec. 74, Blk. LL ..... Shut down 920 ft.

SCURRY COUNTY

Byrd & Harmon's No. 1 Murphy, Jr., 330 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. ..... Shut down 600 ft.
Camp Spring Oil & Ref. Co.'s No. 3 Guinn, 1,300 ft. from S, 300 ft. from E, Sec. 12, Blk. 3, H.&T.C.R.R. Sur ..... Drlg. 1,360 ft.
Cottingham & Briscoe's No 1 Trees, C SE Sec. 147, Blk. 97 ..... Shut down 2,205 ft.
I. B. Mimms et al's No. 1 J. J. Koonsman' Sec. 216, Blk. 2, H.&T.C. Sur. ..... Spudded and shut down 300 ft.
G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Shut down 3,965 ft.
Texas-Canadian's No. 1 Moore, 1,320 ft. from S and W Sec. 379, Blk. 97 ..... Location.

STERLING COUNTY

Sherwood B. Owen's No. 1 Tweedle, 1,980 ft. from N and 1,320 ft. from E of Sec. 10, Blk. T, T.&P. ..... Location.

SUTTON COUNTY

Independent Oil & Gas Co.'s No. 1 Willson, Sec. 30, Blk. A, 1,650 ft. from N, 2,310 ft. from W ..... Spudded and shut down.
Independent & Sun Oil Co.'s No. 1 Allison, Sec. 39, Blk. A, 200 ft. from N and 1,000 ft. from W ..... Drlg. 1,188 ft.
Phillips Pet. Co.'s No. 1 A. G. Holman, 2,310 ft. S and 330 ft. W NE cor., Sec. 25, G.C.S.D.&N.G.R.R. Sur..... Fishing 6,635 ft.; making 1,500,000 ft. gas 6,635 ft.
L. G. Priest's No. 1 Allison, 1,320 ft. N and E of SW cor., Sec. 52, Blk. A, T.&P. Sur. ..... Drlg. 3,998 ft.; show oil 3,625 ft.; increase at 3,690 ft.

TAYLOR COUNTY

Condor Pet. Co.'s No. 1 Brookerson, 765 ft. from E and 200 ft. from S of A. M. Boyd Sur. No. 112 ..... Shut down 2,504 ft.
Dunnigan & Shell Pet. Corp.'s No. 1 Davidson, 2,811 ft. S and W of NE cor. S half of W. R. Willis Sur. No. 122 ..... Top lime 2,389 ft.; swabbed 322 bbls.; total depth 2,391 ft.
John B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor. Sec. 46, Lunatic Asylum Land ..... Show oil 4,917 ft.; shut down 4,960 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M.K.&T.R.R. Sur. ..... Shut down 1,150 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... Shut down 2,765 ft.
Mrs. J. B. McPhee's No. 1 Sam Belt, C Sec. 78, Blk. D-7, E.L.R.R. Sur. ..... Shut down 880 ft.
Milham Exploration Co.'s No. 1 Bassett, Sec. 76, Blk. Y, W. E. Robertson Sur. ..... Cem. 6⅝-in. casing 3,986 ft.; shut down 5,490 ft.
Woodley & Jones' No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. ..... Shut down 625 ft.

TERRY COUNTY

Kingsland, O. P. Co.'s No. 1 Brownfield, C NW SW SW Sec. 7, Blk. 1-A, E.L.R.R. Sur. ..... Fishing baller 5,080 ft.

TOM GREEN COUNTY

Cannon et al's No. 1 Rust, 990 ft. S, 990 ft. W of NE cor. of Sec. 745 ..... Rig.
Fitzgerald & Taliaferro's No. 1 Bennett, C SW Sec. 1,628, E. H. Ringer ..... Shut down 2,410 ft.
Fuhrman Pet. Co.'s No. 1 Wardlaw, 2,650 ft. from N and E of Sec. 6, Blk. 17, H.&T.C. ..... Location.

UPTON COUNTY

Gulf Prod. Co.'s No. 2 Hughes, 150 ft. N and 255 ft. E of SW cor., Lease "B," W. Teer Sur. No. 4, A-806.... Drlg. 2,248 ft.; 1,000 ft. oil in hole.
Pure Oil Co.'s No. 2 Hughes, Sec. 4, 150 ft. from N and W line of lease ..... Top salt 590 ft.; drlg. 1,485 ft.
Pure Oil Co.'s No. 3 Hughes, 150 ft. from N, 765 ft. from W of lease, Sec. 4 ..... Location.
Texas Pacific C. & O. Co.'s No. 14-A Lane, 990 ft. N and 2,310 ft. W SE cor. Sec. 5, G.C.&S.F. ..... Location.
T. P. Coal & Oil Co.'s No. 1 Sherek, 330 ft. from S and E of Sec. 1, Blk. 3, M-K-T ..... Drlg. 400 ft.
White Eagle's No. 2 Hughes, 150 ft. from S and W of lease, Sec. 4, Wm. Teer ..... Drlg. 1,050 ft.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 4,850 ft.
O. O. Owens, No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Gas sand 2,491-2,520 ft.; tested 125,700 ft. gas; reset 8-in. 2,511 ft.; total depth 4,210 ft.; cleaning out.
Phantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line Sec. 44, Blk. D-8, E.L.&R.R. Sur... Fishing 520 ft.
Dyar Bros. et al's No. 1 Wilson, 6,830 ft. N NE cor., Sec. 1, T.&P. Sur., thence 1,680 ft. E, Sec. 115, Blk. E, G.C.&S.F. Sur. ..... Shut down 3,594 ft.
Valvert Oil Corp.'s No. 1 Bassett, C NE, Sec. 47, Blk. Y.. Set 15½-in. casing 767 ft.; set 10-in. casing 1,510 ft.; shut down 4,009 ft.

WARD COUNTY

Alpine Oil & Gas Co.'s No. 1 Boogher, 1,980 ft. SE and NE, Sec. 11, Blk. 5, H.&T.C. ..... Top salt 760 ft.; cem. 8-in. casing 758 ft.; deepened to 2,145 ft.; 500,000 ft. gas standing 300 ft. oil in hole.
Atlantic et al's No. 1 Dorr, 1,730 ft. S, 990 ft. W, Sec. 2, J. Howe ..... Total depth 145 ft.
Atlantic Oil and Delmar Oil Co.'s No. 4 Hayzlett, 2,490 ft. SE NW and 1,470 ft. NE of SW line Sec. 17, Blk. 5, H.&T.C.R.R. Sur. ..... Location.
Atlantic Oil and Delmar Oil Co.'s No. 5 Hayzlett, 2,420 ft. SW of NE line, 2,050 ft. NW SE of Sec. 17, Blk. 5, H.&T.C.R.R. ..... Location.
Barstow Oil & Gas Co.'s No. 1 Monroe, Sec. 50, Blk. 33.. Spudded and shut down.
Cranfill & Reynolds' No. 1 Robeson, 220 ft. NW and NE Sec. 15, Blk. 5, H.&T.C. ..... Top brown lime 2,420 ft.; drlg. 2,425 ft.
Continental Oil Co.'s No. 2 Sealey, 330 ft. S and W, Sec. 81, Blk. A, G.M.M.&A. Sur. ..... Top brown lime 2,280 ft.; cem. 8-in. casing 2,284 ft.; total depth 3,245 ft.; oil pay 3,135 ft.; second oil pay 3,210-15 ft.; increase 3,230 ft.; standing full salt water 3,250 ft.
Gulf Prod. Co.'s No. 2 Hutchins, 330 ft. N and E, Sec. 7, Blk. O ..... Top salt 1,240 ft.; top pay 2,529 ft.; total depth 3,136 ft.
Gulf Prod. Co.'s No. 6 O'Brien, 2,310 ft. from N, 330 ft. from E, Sec. 20, Blk. F, G.M.M.B.&A. Sur. ..... Top salt 1,076 ft.; 40,000,000 ft. gas; show oil 2,625-30 ft.; produced 200 bbls. 21 hrs.; total depth 3,050 ft.; flowed 158⅓ bbls. oil, 1⅓ bbls. water.
Gulf Prod. Co.'s No. 7 O'Brien, 330 ft. S and W Sec. 22, Blk. F, G.M.M.B.&A. Sur. ..... Location.
Gulf Prod. Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW Sec. 18, Blk. 5, H.&T.C. ..... Show gas 1,960-70 ft.; filling up with sulphur water 2,520-27 ft.
L. C. Harrison et al's No. 1 Wristen, 990 ft. from S and W lines of Sec. 26, Blk. B-28 ..... Shut down.
J. H. L. Oil Co.'s No. 3 Hayzlett, 220 ft. N and W Sec. 17, Blk. 5, H.&T.C. ..... Shut down 350 ft.
E. B. Lovelace et al's No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 162, Blk. 34, H.&T.C.R.R. ..... Drlg. 1,015 ft.
Penn & Atlantic's No. 1 Pecos Mercantile Co., Sec. 16, Blk. 34 ..... Shut down 2,587 ft.; salt water and oil 2,584-87 ft.; shot 40 qts. 2,345-98 ft.; results undetermined.
Shell Pet. Corp.'s No. 1 Owen et al, 220 ft. NW of SE line, 220 ft. SW of NE line, Sec. 16, Blk. 5, H.&T.C... Top salt 775 ft.; drlg. 2,190 ft.
Shipley's No. 3 Hayzlett, 2,490 ft. S, 1,470 ft. W Sec. 17, Blk. 5 ..... Drlg. 580 ft.
Shipley et al's No. 4 Hayzlett, 2,050 ft. NW of SE and 2,420 ft. NE of SW line of Sec. 17, Blk. 5, H.&T.C. R.R. Sur. ..... Location.
Shipley et al's No. 5 Hayzlett, assume common line Secs. 16 and 17 is N and S 220 ft. S and 1,910 ft. W Sec. 17, Blk. 5 ..... Derrick.
Shipley et al's No. 1 Monroe, 330 ft. SE SW, Sec. 3, Blk. 1 ..... Shut down 566 ft.

WINKLER COUNTY

V. T. Bolin's No. 2 Brown et al, 2,000 ft. S and W of NE, Sec. 4, Blk. B-5, Public School Land ..... Top salt 1,300 ft.; shut down 2,832 ft.
Cinderella Syndicate's No. 1 Hendricks, 330 ft. N, 1,650 ft. W Sec. 42, Blk. 26, Public School Land.... Total depth 150 ft.; building rig.
Cranfill & Pickrell's No. 2 Hutchins, 2,310 ft. S and W Sec. 47, Blk. 26 ..... Running 6-in. 2,722 ft., gray lime; show gas 2,280 ft.; increase 2,395 ft.; estimated 5,000,000 ft. gas; drlg. 2,780 ft.
Gulf Prod. Co.'s No. 2-B Lum Daugherty, 2,310 ft. from N and 1,320 ft. W Sec. 22, Blk. 26, P.S.L. ..... Top lime 2,495 ft.; show oil 2,680-85 ft.; pay 2,698-2,700 ft.; flow 50 bbls. hourly, 88 per cent water; fishing; total depth 3,005 ft.
Humble O. & R. Co.'s No. 1-D Hendricks, 330 ft. from S, 2,310 ft. from W of Sec. 41, Blk. 26 ..... Drlg. 2,450 ft.
Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor., Sec. 2, Blk. B-5 ..... Shut down 2,495 ft.
Skelly Oil Co.'s No. 5 Daugherty, 1,326 ft. W, 2,310 ft. S, Sec. 22, Blk. 26 ..... Location.
Southern Crude O. P. Co.'s No. 4 Hendricks T-90, 2,310 ft. S and E of Sec. 47, Blk. 26 ..... Top lime 2,242 ft.; drlg. 2,531 ft.; 18,000,000 ft. gas 2,401-04 ft.; mixing mud to kill gas; estimated 25,000,000 ft. gas; oil show 2,575-78 ft.; total depth 2,659 ft.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 66)

CASTRO COUNTY

Colorado O. & R. Co.'s No. 1 M. Siemmons, SW cor., Sec. 73, Blk. M-17, B.S.&F. Sur. ..... Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur. ..... S.D. 510 ft. for csg.

CHILDRESS COUNTY

C. L. Sloane et als' No. 1 B. P. Smith Sur. 49, F. P. Knott lands ..... S.D. 4,675 ft.

COCHRAN COUNTY

Continental Oil Co.'s No. 1 Slaughter-A, 330 ft. from W, 430 ft. from S lines, League 130, Carson County School land ..... Small show gas 4,745-50 ft.; 3,000 ft. oil in hole 4,883 ft; T.D. 5,001 ft; P.B. 4,900 ft; C.O. to shoot; oil pay 4,873-88 ft; testing; swbd. 65 bbls. oil and 5 bbls. wtr; has 2,000 ft. oil in hole; 500 bbls. wtr. in hole; to shoot again.
Westbrook et als' No. 1 Slaughter, 400 ft. from S and E, Labour 67, League 118, Knox Co. School Lands... Spudding.

DONLEY COUNTY

Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. from N line, 985 ft. from E line, Sec. 22, Blk. E, D.&P.R.R. Sur... T.D. 3,006 ft; contract depth.
Marine Oil Co.'s No. 1 Sawyer, C SW, Sec. 5, Blk. G, G.C.&S.F. Sur. ..... S.D. 3,510 ft.
Southland Oil Co.'s No. 1 Lewis, C SE 40 ac., Sec. 3, Blk. 29, H.&G.N.R.R. Sur. ..... Drlg. 2,360 ft.

GRAY COUNTY

Alexander and Shell Pet. Corp.'s No. 1 Harrah-McKinney, 330 ft. S and W, NE cor. E½ SE, Sec. 163, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 806 ft.
British-American Oil Co.'s No. 2 Purviance, 330 ft. N and E, SW cor. E 160 ac., Sec. 61, Blk. B-2, H.& G.N.R.R. Sur. ..... Location.
Champlin Ref. and Danciger's No. 2 Cook-Faulkner, 860 ft. N, 330 ft. E, SW cor. W 120 ac. of E 200 ac., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. ..... 1,500 ft. oil in hole 2,855-57 ft; T.P. 2,857-65 ft; S.D. 2,960 ft; flowing 150 bbls.

Champlin Ref. and Danciger's No. 3 Cook-Faulkner, 330 ft. S and E, NW cor. W 120 ac. of E 200 ac., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. ..... Location.

Champlin Ref. Co.'s No. 3 McLaughlin, 990 ft. from S and E lines, E½, Sec. 33, Blk. B-2 ..... S.D. 2,855 ft; 4,000,000 ft. gas 2,750-2,850 ft.

Constantine et als' No. 1 Crews, 330 ft. S and W, NE cor. SW, Sec. 20, Blk. 30, H.&G.N.R.R. Sur. ..... Location.

Crabtree Drlg. Co.'s No. 1 B. F. Talley, SW NE, Sec. 114, Blk. M-2, B.S.&F. Sur. ..... S.D. 2,740 ft.

Danciger O. & R. Co.'s No. 1 Arnold, 330 ft. N and E, SW cor. SE, Sec. 149, Blk. 3, I.&G.N. Sur. ..... S.D. 2,925 ft

Danciger O. & R. Co.'s No. 4 Beck, 330 ft. S and W, NE cor., Sec. 28, Blk. B-2, H.&G.N. Sur. ..... S.D. 2,845 ft; swbd. 350 bbls. in 24 hrs; T.P. 2,843-48 ft.

Danciger O. & R. Co.'s No. 6 Beck, 330 ft. S, 990 ft. W, NE cor., Sec. 28, Blk. B-2, H.&G.N. Sur. ..... Drlg. 2,625 ft.

Danciger O. & R. Co.'s No. 7 Beck, 330 ft. S, 1,650 ft. W, NE cor., Sec. 28, Blk. B-2, H.&G.N. Sur. ..... S.D. 2,680 ft; S.G. 2,397-2,455 ft.

Danciger et als' No. 11 Jackson, 330 ft. S, 1,320 ft. W, NE cor. NW, Sec. 88, Blk. B-2, H.&G.N. Sur. ..... T.D. 2,906 ft; set 8¼-in. csg.

Danciger O. & R. Co.'s No. 1 McLarty, 1,220 ft. from S, 330 ft. from W, W½ NW, Sec. 10, Blk. 1, A.C. H.&B. Sur. ..... Drlg. 2,350 ft; 12,000,000 ft. gas 2,275-2,350 ft.

Danciger O. & R. Co.'s No. 1 Shaw, 330 ft. from S, 286 ft. from E of E 39½ ac., NW, Sec. 5, Blk. 1, A. C.H.&B. Sur. ..... T.D. 2,619 ft; coring.

Danciger O. & R. Co.'s No. 1 Williams, 330 ft. from N, 330 ft. from E, S½ NW ..... Estimated 15,000,000 ft. gas 2,610-70 ft; S.D. 2,720 ft.

Dunlop's No. 4 Morse, 330 ft. N and E SW cor. SW, Sec. 17, Blk. A-9, H.&G.N.R.R. Sur. ..... Spudding.

Sines & Reiger's (formerly Eslick et als') No. 1 Mrs. J. A. Hopkins, NW cor. W 80 ac. of SW, Sec. 84, Blk. B-2, H.&T.C. Sur. ..... S.D. 3,206 ft.

Gardner Bros. and Collins' No. 2 Saunders, 955 ft. from S, 330 ft. from E of W 68 ac. E½ J. G. Eustice Sur. .. Location.

Gulf Prod. Co.'s No. 3 Worley-A, 330 ft. N, 1,650 ft. W, SE SW, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 3,012 ft.

Guernsey Oil Co.'s No. 1 Pope, 330 ft. from N and W lines, W½ SW, Sec. 173, Blk. 3, I.&G.N. Sur. ..... Fishing 2,360 ft.

Haymer O. & G. Co.'s No. 1 Morse, 330 ft. each way out of SE cor. E½ SE, Sec. 45, Blk. A-9, H.&G.N. Sur. ..... Rigging up.

Herragan Oil Co.'s No. 1 Bradford, 330 ft. from N, 990 ft. from E, Sec. 123, Blk. B-2 ..... T.D. 2,670 ft; U.R. 8¼-in. csg; first show gas 2,475-80 ft; 15,000,000 ft. gas 2,515-40 ft.

Hinerman Bros.' No. 1-A Taylor, 330 ft. from NE E½ NE, Sec. 8, Blk. H, A. H. Wallace Sur. ..... Drlg. 390 ft.

Humble O. & R. Co.'s No. 1 Chapman, 330 ft. from N and E, NW, Sec. 69, Blk. 25, H.&G.N. Sur. ..... Drlg. 650 ft.

Humble O. & R. Co.'s No. 3 Jackson, 230 ft. from E line, 330 ft. from N line of E 110.5 ac., Sec. 90, Blk. B-2, H.&G.N.R.R. Sur. ..... S.G. 2,533 ft; T.D. 2,898 ft; S.G. 2,782 ft.

Humble O. & R. Co.'s No. 4 Jackson, 976 ft. N, 330 ft. E, SW cor. E 95.25 ac., Sec. 90, Blk. B-2, H.&G.N. Sur. S.G. 2,271 ft; drlg. 2,869 ft.

Humble O. & R. Co.'s No. 1 Palmer, 330 ft. from N and E lines, of W 100 ac., Sec. 31, Blk. B-2, H.&G. N. Sur. ..... S.D. 2,797 ft; S.G. 2,697 ft.

Independent O. & G. Co.'s No. 1 Hollenbeck, 990 ft. each way from NE cor. NE, Sec. 176, Blk. 3, I.&G. N.R.R. Sur. ..... 5,000,000 ft. gas from 2,428-83 ft; T.D. 3,470 ft; P.B. for gas.

Magnolia Pet. Co.'s No. 7 Bowers, 990 ft. S and E, NW cor. NW, Sec. 63, Blk. B-2, H.&G.N.R.R. Sur. ..... Drlg. 2,170 ft.

Magnolia Pet. Co.'s No. 8 Bowers, 990 ft. N and E, SW NW, Sec. 63, Blk. B-2, H.&G.N.R.R. Sur. ..... Drlg. 1,740 ft.

Magnolia Pet. Co.'s No. 4 Magnolia, 990 ft. S and 330 ft. W, NE cor. NE, Sec. 11, Blk. 3, I.&G.N.R.R. Sur. Location.

Magnolia Pet. Co.'s No. 1 Wright, 330 ft. S and W lines, S½ SW, Sec. 13, Blk. 3, I.&G.N. Sur. ..... 15,000,000 ft. gas 2,707-10 ft; S.D. 2,710 ft.

Magnolia Pet. Co.'s No. 2 Wright, 820 ft. from W, 330 ft. from S, S½ SW, Sec. 13, Blk. 3, I.&G.N. Sur. .... S.D. 2,702 ft.

McMan O. & G. Co.'s No. 3 Jackson, 974 ft. N, 330 ft. W, SE cor. W 95.25 ac. of E 190.5 ac., Sec. 90, Blk. B-2, H.&G.N. Sur. ..... S.D. 2,024 ft.; cmtd. 10-in. csg.

McMan O. & G. Co.'s No. 4 Jackson, 970 ft. N, 330 ft. E, SW cor. W 95.25 ac. of E 190.5 ac., Sec. 90, Blk. B-2, H.&G.N. Sur. ..... Drlg. 2,130 ft.

McMan O. & G. Co.'s No. 6 Palmer, 330 ft. S and E of NW E 100 ac. of W 200 ac., Sec. 31, Blk. B-2, H.&G.N. Sur. ..... Drlg. 2,927 ft; S.G. 2,762 ft; S.O. 2,920-27 ft.

Oil Operators' No. 1 Bowers, 330 ft. from N, 330 ft. E, Sec. 93, Blk. B-2, H.&G.N. Sur. ..... Show oil and gas 2,400-17 ft; drlg. 2,794 ft; first gas 2,483 ft; increased at 2,500 ft., 2,544 ft. and 2,950 ft; first gas 2,385-95 ft; 15,000,000 ft. gas 2,450-2,627 ft; S.O. 2,950-65 ft; S.D. 2,968 ft.

Operators Oil Co.'s No. 1 Lovett, 330 ft. from N and W line, W½ NE, Sec. 57, Blk. B-2, H.&G.N. Sur. .... Gas 2,390 ft; drlg. 2,925 ft; S.O. 2,837-47 ft.

Operators Oil Co.'s No. 5 Cook-Faulkner, 990 ft. N, 330 ft. W, SE W 90 ac., Sec. 30, Blk. B-2, H.&G.N. Sur.. S.D. 2,748 ft; standardizing.

Operators Oil Co.'s No. 6 Cook-Faulkner, 330 ft. S and E, NW cor., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. .... S.G. 2,424 ft. and 2,477 ft; S.D. 2,750 ft.

Operators Oil Co.'s No. 7 Cook-Faulkner, 330 ft. S, 820 ft. E, NW cor., Sec. 30, Blk. B-2, H.&G.N. Sur. ..... S.G. 2,380 ft; S.D. 2,691 ft.

Operators Oil Co.'s No. 8 Cook-Faulkner, 330 ft. S, 1,310 ft. E, NW cor., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur.. S.D. 2,685 ft.

Osborn et als' No. 1 Morse, 330 ft. N and E, SW cor. S½ NE, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. ..... S.O. 2,572 ft; C.O. and swbng. 500 ft. oil from 2,572-2,670 ft; S.D. 2,672 ft; to deepen.

Panhandle Ref. Co.'s No. 3 Saunders, 330 ft. N and E, SW cor. E½ NE, Sec. 3, Blk. 1, A.C.H.&B. Sur. ..... S.D. 2,474 ft.

Phillips Pet. Co.'s No. 1 Eakin, 330 ft. from S, 330 ft. from W, Sec. 56, Blk. 25, H.&G.N.R.R. Sur. ..... S.O. 2,245-55 ft; 1,000,000 ft. gas 2,170-2,255 ft; drlg. 4,445 ft.

Phillips Pet. Co.'s No. 1 Jackson, 330 ft. each way from NE cor. NE, Sec. 58, Blk. B-2, H.&G.N.R.R. Sur. .... S.O. 2,712-22 ft; 250 ft. oil in hole; set 5-in. csg. 3,018 ft; 7,000,000 ft. gas 3,130 ft; 1,000,000 ft. gas 3,144 ft; T.D. 3,260 ft;

Phillips Pet. Co.'s No. 6 Jackson, 330 ft. from N, 990 ft. from E line, S½ NE, Sec. 88, Blk. B-2, H. &G.N.R.R. Sur. ..... T.D. 3,260 ft.

Phillips Pet. Co.'s No. 6 Palmer, 330 ft. S and W, NE cor., Sec. 81, Blk. 2, H.&G.N.R.R. Sur. ..... S.D. 2,743 ft.

Plains Drlg. Co.'s No. 1-A Chapman, 330 ft. from S and W, NE, Sec. 10, Blk. 26, H.&G.N. Sur. ..... Drlg. 2,490 ft; S.G. 2,240 ft; 15,000,000 ft. gas 2,240-90 ft.

Prairie O. & G. Co.'s No. 1 Langham, 330 ft. N and E, SW, Sec. 1, Blk. B-2, H.&G.N.R.R. Sur. ..... 60,000.000 ft. gas; drlg. 2,891 ft; 900 ft. oil in hole; T.P. 2,810-91 ft.

Quillian et als' No. 1 Barrett, 330 ft. from N, 330 ft. from E, Sec. 131, Blk. 3, H.&G.N. Sur. ..... T.D. 2,705 ft; 20,000,000 ft. gas 2,660-2,705 ft.

Ray et als' No. 1 Noble, 240 ft. from S and 330 ft. from W line, W 80 ac., SW, Sec. 10, Blk. A-6, H.&G. N. Sur. ..... Rig.

Rierger & Steckoll's No. 1 Bohr, 330 ft. from S and E, Sec. 37, Blk. B-3, H.&G.N. ..... Location.

Shamrock O. & G. Co.'s No. 2 Saunders-Lincoln, 330 ft. N and W, SE cor. W½ NE, Sec. 3, Blk. 1, A.C.H. &B.R.R. Sur. ..... Drlg. 2,250 ft.

Shamrock O. & G. Co.'s No. 3 Saunders, 330 ft. N and E, SW E½ SE, Sec. 4, Blk. 1, A.C.H.&B. Sur. ..... Drlg. 1,770 ft.

Shamrock O. & G. Co.'s No. 1 Taylor, 330 ft. each way out of NE cor, NW, Sec. 1, Blk. 2, H.&G.N. Sur. .... Drlg. 300 ft.

Skelly Oil Co.'s No. 1 Chapman, 330 ft. from S and E, S½ NW, Sec. 69, Blk. 25, H.&G.N. Sur. ..... Drlg. 495 ft.

Skelly Oil Co.'s No. 5 Jackson, 970 ft. N, 330 ft. W, SE cor. W 190 ac. of Sec. 90, Blk. B-2, H.&G.N. Sur. .... Drlg. 2,152 ft.

St. Clair Oil Co.'s No. 1 Dial, 330 ft. S and W, NE cor. SE, Sec. 10, Blk. 25, H.&G.N.R.R. Sur. ..... Cellar.

St. Clair Oil Co.'s No. 1 Rowe, Sec. 32, Blk. R ..... S.D. 3,490 ft; hole full wtr.

St. Clair Oil Co.'s No. 1 L. S. Stockton, SE cor., Sec. 35, W. R. Lee Sur. ..... Spudded and S.D.

Stogner Meaders' No. 1 Taylor, 330 ft. from S and E, SW Sec. 7, Blk. H, A. H. Wallace Sur. ..... Drlg. 910 ft.

Sun Oil Co.'s No. 4 Purviance, 330 ft. S and E, NW cor., Sec. 61, Blk. B-2, H.&G.N.R.R. Sur. ..... S.D. 2,410 ft; standardizing.

The Texas Co.'s No. 3 Bruce Bull, 330 ft. from N, 330 ft. from W, Sec. 2, Blk. B-2 ..... 8,000,000 ft. gas 2,340-50 ft; drlg. 2,750 ft; S.O. 2,735 ft.

The Texas Co.'s No. 3-B Chapman, 330 ft. S and E, NW cor. SE, Sec. 69, Blk. 25, H.&G.N.R.R. Sur. ..... Drlg. 1,400 ft.

The Texas Co.'s No. 3 Comb-Worley, 330 ft. N and W, SE cor., Sec. 36, Blk. 3, I.&G.N. Sur. ..... S.D. 2,710 ft.

The Texas Co.'s No. 7 Cook-Faulkner, 330 ft. N. and W, SE cor. W 200 ac., Sec. 29, Blk. B-2, H.&G.N. Sur. .. Drlg. 2,610 ft.

The Texas Co.'s No. 3 McLarty-B, 1,326 ft. S, 660 ft. E, NW E½, Sec. 10, Blk. 1, A.C.H.&B. Sur. ..... Drlg. 1,860 ft.

The Texas Co.'s No. 14 Saunders, 955 ft. N, 330 ft. W, SE cor. W½ of J. G. Eustis Sur. ..... Drlg. 1,930 ft.

The Texas Co.'s No. 15 Saunders, 330 ft. N and W, SE cor. W½ SE, Sec. 4, Blk. 1, A.C.H.&B. Sur. ..... Drlg. 1,300 ft.

White Eagle O. & R. Co. et als' No. 2 Faulkner, 330 ft. from S and W, E 60 ac., Sec. 29, Blk. B-2 ..... Standardizing 2,476 ft.

Wright Wilson, trustee's No. 1 Chapman, 175 ft. from S and E line, N½ NW, Sec. 69, Blk. 25, H.&G.N. Sur.. Drlg. 2,010 ft.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Ellwood, 320 ft. from N and W lines, League 7, Wilbarger County School lands; elevation 3,363 ft; contract depth 5,000 ft. ..... S.D. 3,250 ft.

HUTCHINSON COUNTY

Alamosa Oil Co.'s No. 4 Sanford, 310 ft. S, 320 ft. W, NE cor. of N 160 ac. of S 240 ac., Sec. 85, Blk. 46, H.&T.C. Sur. ..... Drlg. 3,011 ft; S.O. and wtr. 3,010-11 ft.

Continental Oil Co.'s No. 1-B Johnson, 330 ft. S and W, NE cor. NW, Sec. 6, Blk. 1, B.&B. Sur. ..... 10,000,000 ft. gas; drlg. 2,910 ft.

Devore Oil Co.'s No. 1 Johnson Bros., 330 ft. from S and E line, NW SW, Sec. 28, Blk. Y, A.&B. Sur. ..... S.D. 2,950 ft.

Huey et als' No. 3 Smith et al, 330 ft. from N, 660 ft. from W, S 40 ac. of E 100 ac., SE, Sec. 12, Blk. Y.. S.D. 1,933 ft.

Midwest Explin. Co.'s No. 1 Garner et al, 330 ft. N and W, SE cor. NE, Sec. 124, Blk. 4, I.&G.N. Sur. ..... Drlg. 2,200 ft.

Midwest Explin. Co.'s No. 2 Gardner et al, 330 ft. N, 1,650 ft. W, SE cor. NE, Sec. 124, Blk. 4, I.&G.N. Sur.. Drlg. 1,650 ft.

O. B. Penney's No. 2 Johnson Bros., 330 ft. from S line, 330 ft. from W line, W½ NE, Sec. 35, Blk. Y, A.&B. Sur. ..... 31,000,000 ft. gas 1,990 ft; S.D. 3,000 ft.

Phillips Pet. Co.'s No. 1 Johnson Bros., 330 ft. from N and W lines, NW, Sec. 34, Blk. Y, A.&B. Sur. ..... Pay 2,951-72 ft; initial prod. 30 bbls. oil and 5,000,000 ft. gas; fishing 3,085 ft.

Phillips Pet. Co.'s No. 6 (Florence), 330 ft. each way from S and W lines, E½ ..... T.D. 2,876 ft; T.P. 2,805 ft; I.P. 70 bbls; shot 54 qts. 2,788-2,828 ft; C.O. 2,876 ft.

Prairie O. & G. Co.'s No. 4 Cal Merchant, 5,612 ft. S, 330 ft. E, NW, Sec. 37, Blk. 47, H.&T.C.R.R. Sur. ... S.D. 3,050 ft; 1,000,000 ft. gas.

Reliance O. & G. Co.'s No. 2 Sanford, 330 ft. S and E, NW W½ of N 80 ac. of S 320 ac., Sec. 83, Blk. 46, H.&T.C. Sur. ..... Drlg. 1,510 ft.

Skelly Oil Co.'s No. 2 Lee Bivins, 306 ft. from E, 1,342 ft. from S line, S 160 ac. of N 320 ac., Sec. 84, Blk. 46, H.&T.C.R.R. Sur. ..... Drlg. 2,400 ft.

Sunny Jim Oil Co.'s No. 3 Pitts, 330 ft. N and W of most southerly SE cor., Sec. 9, Blk. M-21, T.C. Sur... Location.

The Texas Co.'s No. 3 Moore, 330 ft. S, 1,338 ft. E, NW cor. SW, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. ..... Location.

Travelers Oil Co.'s No. 2 Cockrell, 350 ft. from E and S line, Sec. 8, Blk. B-3, D.&S.E. Sur. ..... 1,000,000 ft. gas 2,610-2,770 ft; fishing 2,965 ft.

LAMB COUNTY

Graham O. & G. Co. et als' No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ..... Run. 6-in. csg. at 3,325 ft.

LIPSCOMB COUNTY

Brown et als' No. 1 Box T Ranch, SW NE, Sec. 612, H.&T.C. Sur. ..... S.D. 3,305 ft.

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... T.D. 4,775 ft; U.R. 5 3/16-in. csg.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small S.O. 1,133-40 ft; sand; S.D. 4,167 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 1 Read-A, C NW, Sec. 14, Blk. 13-12, D.&P. Sur. ..... 4,000,000 ft. gas; drlg. 2,845 ft.

Amarillo Oil Co.'s No. 1 Perkins-A, 330 ft. each way out of NW cor. NE, Sec. 76, Blk. 3 ..... Drlg. 2,645 ft

Red River Gas Co.'s No. 1 J. M. Shelton, 330 ft. each way from SE cor., Sec. 52, Blk. 3, G.&M. Sur. ..... Drlg. 375 ft.

Dana O. & G. Co.'s No. 1 Anthony, C NW, Sec. 260, Blk. 44, H.&T.C.R.R. Sur. ..... Drlg. 2,400 ft.

Fritch O. & G. Co.'s No. 1 Lee Bivins, C N 40 ac. of N 160 ac., Sec. 4, Geo. Mahan Sur. ..... 2,000,000 ft. gas 1,550-65 ft; S.D. 2,225 ft.

MOTLEY COUNTY

Explin. Co.'s No. 5 Matador, C, Sec. 45, Blk. J-B, C, B.&C.N.G.R.R. Sur. ..... Run. 8-in. csg. at 2,450 ft.

Explin. Co.'s No. 6 Matador, 330 ft. from N line, 330 ft. from E line, Sec. 132, Blk. M ..... Drlg. 2,500 ft.

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 580 ft.

POTTER COUNTY

Canadian River Gas Co.'s No. 1 Allison "A," 386 ft. from E line, 5,439 ft. from S line, Sec. 1, W. T. Palmer Sur.. Drlg. 350 ft.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14.... S.D. 1,250 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. 5-A..... T.D. 5,992 ft; will P.B. and shoot; S.O. 5,288-91 ft; C.O.

WHEELER COUNTY

Byrens et als' No. 1 Johnson, SW cor. NE, Sec. 88, Blk. A-5, H.&G.N. Sur. ..... S.D. 2,920 ft.

Lela O. & G. Co.'s No. 1 Williams & Laycock, 330 ft. from S, 209 ft. from W, W½ NW, Sec. 20, Blk. A-8, H.&G.N. Sur. ..... S.D. 1,700 ft.

Murchison & Fain's No. 4 Close, C NE NE, Sec. 75, Blk. 23, H.&G.N.R.R. Sur. ..... Location.

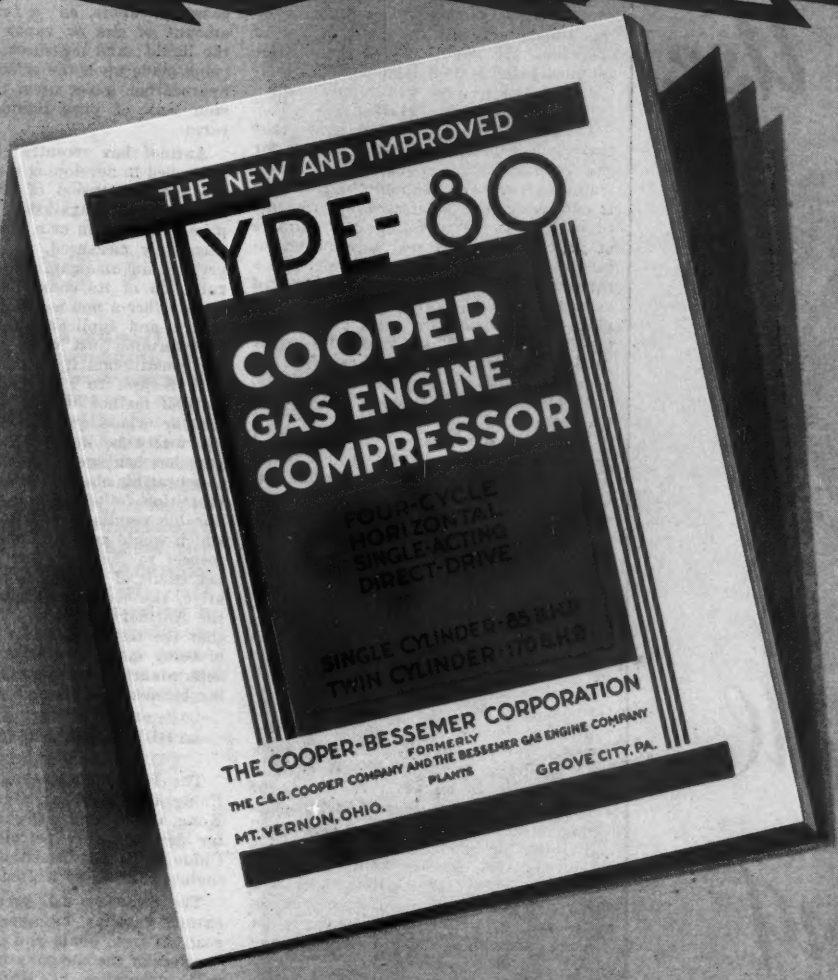
Shell Pet. Corp.'s No. 1 Ackley, C SW SE, Sec. 20, Blk. 24, H.&G.N. Sur. ..... Drlg. 1,500 ft.

The Texas Co.'s No. 1 Cuddleback, C SE SE, Sec. 18, Blk. 24, H.&G.N. Sur. ..... Spudding.

Vaughn et als' No. 3 Ackley, 330 ft. from N, 330 ft. from W, Sec. 4, Blk. 27, H.&G.N. Sur. ..... T.D. 1,840 ft; 5,000,000 ft. gas 1,660-1,770 ft.

Wischkamper et als' No. 1 Curry, C NE SE, Sec. 53, Blk. 23, H.&G.N. Sur. ..... Drlg. 1,490 ft.

Whether You Need Type 80's Now or Not *You'll Want This* BULLETIN.



COOPER BESSEMER C B CORP.

FOR many important gas and oil field operations the new Cooper Type-80 gas engine compressor has proved its superiority.

A bulletin completely describing this improved engine has just been published. Features of design and construction are explained and illustrated. Installation photographs in well known compressor stations show some of the principal applications.

Because of the leading position of the new Cooper Type-80 for gas compressor service all gas and oil men who have engine-buying responsibilities should have a copy of the new bulletin.

A request will bring a copy by return mail.

THE COOPER-BESSEMER CORPORATION

Formerly The C. & G. Cooper Company and The Bessemer Gas Engine Company

Mount Vernon, Ohio — Grove City, Pennsylvania

Branch offices in all principal oil and gas fields

For Strength and Uniformity Use

Change to the triangle when fishing begins!

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Butler, Pa.

WICKWIRE SPENCER
UNIFORM WIRE ROPE

GAS AS A COMPETITOR OF FUEL AND GAS OIL

(Continued from Page 38)

producing gas to displace carburetted water gas.

The above for today, tomorrow with further developments, due to further research, it may prove that the by-products obtained from raw materials from petroleum sources are as quantitatively valuable as those from coal, in which case, in many localities coal gas could not compete.

Today an oil gas plant of a daily capacity of 6,000,000 feet is probably by this time practically completed if not in operation, the population of the district supplied being 90,000; the plant an auxiliary to the natural gas supply.

Promising Market

I mention this to further show that there is a promising potential market for gas produced from liquids from petroleum sources. The manufacturer of gas is now more than interested. It remains to be seen if the producers and refiners of petroleum and natural gasoline manufacturers will become so and undertake a concerted and continuing effort toward assuring those establishing such gas plants a constant and basic priced supply for a period of years for their products used as raw materials. Co-operation, with the manufacturer of gas, not competition, will prove the life of this trade in fuels.

Those in the Middle West should, I judge, be particularly interested in so doing as well as those on the Pacific Coast. Considering everything involved, may not holding a market while obtaining a larger one prove better for everyone concerned than a protective tariff upon petroleum and its products?

Martin J. Insull has stated that, "The small towns comprise our new industrial frontier." * * * * * * and that "with adequate transportation and power supply the small towns are relieved of handicaps that formerly diverted industry to the larger cities."

In the booklet entitled, "The New Frontier" (well worth a careful reading) published by the Middle West Utilities Co., it is stated: "It is to the smaller communities that industry principally must look for economic locations."

Besides the potential market for gas produced from liquids from petroleum sources in many large cities, there is a large potential market in such communities, with which neither natural gas nor coal gas should be able to compete, and which should be most economically supplied with raw materials from shippers located in Group 3.

HYDROCARBON VAPORS AND SURFACE TENSION

The American Petroleum Institute research division's report on the progress on Project 35, Effect of Hydrocarbon Vapors Upon the Surface Tension of Petroleum Fractions, to June 30, follows:

An apparatus has been built which makes it possible to measure accurately the surface tension, either of a pure hydrocarbon liquid or of crude oil, as it varies with the content of the absorbed gases or vapors, as a function of the amount of gas or vapor in solution in the liquid; and measurements are now being made upon the effect of solution of hydrocarbon gases upon the surface tension both of pure liquids and of mixtures.

Antinof has recently claimed to have succeeded in developing a method whereby the surface tension of a solid (such as silica or sand) against a liquid (such as pure hydrocarbon or a crude oil) could be accurately measured, the method being to prepare an amalgam which, through the variation of its constituents, could be made either a non-wetting or wetting substance, and duplicable observations made to determine just when with such varying constituents it became non-wetting with respect to a particular solid. This Antinof method was of such importance for the whole question of the study of the forces holding oil in sands, that a year has ben spent in endeavoring: first, to repeat his observations, and, when such repetition failed to give definite and duplicable results, to devise new amalgams which would act in a consistent way with respect to the foregoing property. The net result of all this work has been negative, the conclusion being not only that the Antinof results are not reliable, but that the method appears to be incapable of being made a satisfactory one for the determination of the surface tension existing between liquids and solids.

BUILD PLANT IN CHINA

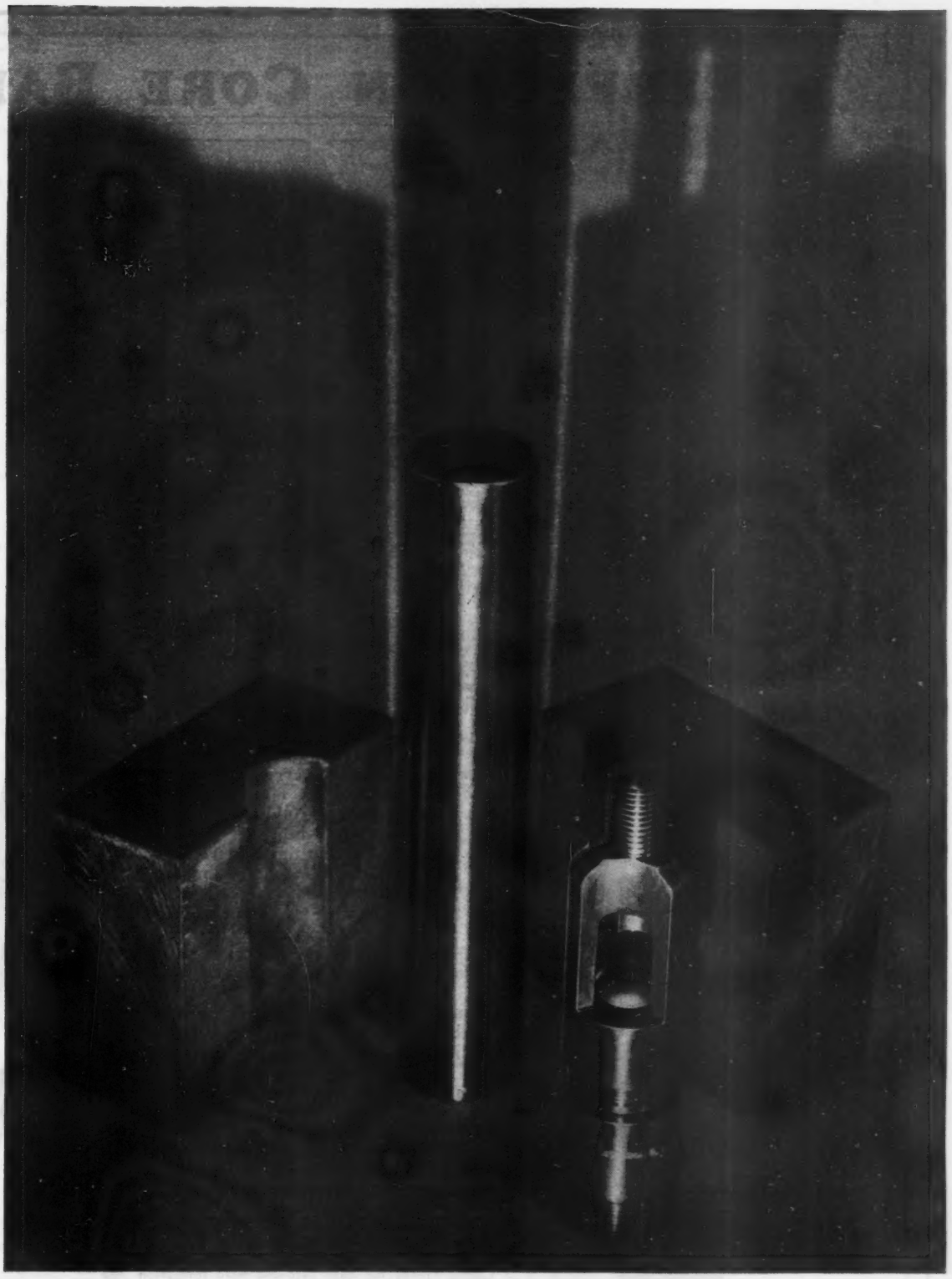
The Industrial & Commercial Oil Refining Co. has been organized at Hong Kong, China, under the laws of Portugal, for developing of petroleum refining in China with the assistance of technical engineers from the United States.

The company will erect a refinery to extract gasoline, kerosene, lubricants and road oil from shale and crude oil. Headquarters of the company will be at Macao, with properties at Kam Sing, in the Province of Kuangtung.

GULF ADDS TO ITS CRACKING FACILITIES

Battery of new Gulf cracking stills under construction at the Port Arthur, Tex., plant of the Gulf Refining Co.

UNRETOUCHED PHOTO



Pump parts

THAT FIT

The high quality of Axelson products and the excellent service derived from same, together with the sincere efforts put forth to serve Axelson customers in a satisfactory manner, have resulted in a constantly growing demand for these pumps throughout the world. All parts are fitted to a most exact standardized size, giving complete interchangeability—a most desirable feature, especially where transportation is of primary importance.

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

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Axelson

WORKING AND STANDING VALVES

A variety of Axelson working and standing valves is offered, permitting of any desired pump combination to meet the peculiar well conditions.

Our new catalog, No. 110, just published, will be mailed upon request.

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The Perfection Core Barrel has earned the name . . . the Royal Flush of core barrels. Even in hard formations there is no chance to miss taking a clean, accurate core when the Perfection reaches bottom and rotates . . . the *heat treated* Chrome Nickel cutter head, faced with a substance of diamond-like hardness takes care of this. Every part of the barrel is built to stand great punishment.

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Shreveport, Louisiana

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Exclusive Export Agents: The W. K. M. Co., 74 Trinity Place, New York, N. Y.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 46)

Ohio Oil Co.'s No. 6 Hunter, 330 ft. S, 330 ft. W, NE cor. NW NE, Sec. 17-19-14 ..... Cored shale 2,412 ft.
Ray-Dawes Drlg. Co.'s No. 3-A Hunter, Sec. 9-19-14..... Began drlg. Oct. 6; cmtd. 10-in. 100 ft; drlg. 1,000 ft.
Ray-Dawes Drlg. Co.'s No. 4-A Hunter, Sec. 9-19-14 .... Derrick.
Standard Oil Co.'s No. 8 Hunter, Sec. 17-19-14 ..... Location.
Standard Oil Co.'s No. 3 Henderson, 220 ft. N. 330 ft. W, SE cor. SW SE, Sec. 7-19-14 ..... Derrick.
Standard Oil Co.'s No. 9 Hunter, 330 ft. N, 330 ft. W, SE cor. SW SE, Sec. 8-19-14 ..... Cmtd. 10-in. 97 ft.; drlg. 2,250 ft.
The Texas Co.'s No. 2 Hunter, 272 ft. N, 272 ft. W, SE cor. SW, Sec. 9-19-14 ..... W.O.S.R. 2,440 ft.
The Texas Co.'s No. 3 Hunter, 990 ft. W, 330 ft. N, SE cor., Sec. 8-19-14 ..... Swabbed 200 bbls. S.W., some oil 2,448 ft.
The Texas Co.'s No. 4 Hunter, 990 ft. N, 330 ft. W, SE cor. Sec. 8-19-14 ..... Began drlg. Oct. 2; cmtd. 10-in. 100 ft.; drlg. chalk 1,649 ft.
The Texas Co.'s No. 5 Hunter, 990 ft. N, 272 ft. W, SE cor. Sec. 9-19-14 ..... Rig up.

CADDO PARISH—OIL CITY

Arrow Synd.'s No. 1 Pender, 200 ft. N, 440 ft. E, SW cor., NW NW, Sec. 11-20-15 ..... Began drlg. Oct. 2; cmtd. 10-in. 85 ft.; drlg. 390 ft.
W. D. Chew's No. 5 fee, Sec. 33-21-16 ..... Tested S.W. show of oil; W.O. 2,306 ft.
Gulf Ref. Co.'s No. 19-A Levee Board, 700 ft. E, 220 ft. S, NW cor. NE, Sec. 34-21-16 ..... W.O.S.R; 1,825 ft.
Gulf Ref. Co.'s No. 20-A Levee Board 1,570 ft. S, 268 ft. W, NE cor. NW, Sec. 34-21-16 ..... Location.
Magnolia Pet. Co.'s No. 19 Doan-Thigpen, 330 ft. N, 990 ft. W, SE cor. Sec, 6-20-15 ..... Derrick.
Magnolia Pet. Co.'s No. 18 Dillon, 165 ft. S, 500 feet E, NW cor., Sec. 24-21-15 ..... O.W.D.D. completed Jan. 24, 1929; 15 bbls. oil and 150 S. W. 3,730 ft.; comp. Aug. 21, 1929 dry and abd. 4,866 ft.; arranging perforated casing 1,750 ft.
Shreveport Oil Corp.'s No. 1 Guy, NW NE, Sec. 32-21-15.. Tested S.W. with show of oil; S.D. for orders; T.D. 2,300 ft.
Simplex Oil Co.'s No. 7 Youree-Randolph, 660 ft. N, 660 ft. W, C, Sec. 13-20-15 ..... Tested 50,000 ft. gas 2,300 ft; S.D. for orders; T.D. 2,326 ft.
The Texas Co.'s No. 72 Levee Board, 725 ft. N, 210 ft. E, SW cor. SE, Sec. 27-21-16 ..... Rigging up.

CADDO PARISH—HOSSTON

Standish O. & R. Co.'s No. 12 Allen, 1,120 ft. W, 330 ft. S, C, Sec. 23-22-15 ..... S.D.; W.O. 1,066 ft.

CADDO PARISH—LEWIS

Snake Creek Oil Co.'s No. 1 Levee Board, SW NW, Sec. 9-21-16 ..... Tested dry with show of oil and S.W.; S.D.; T.D. 2,328 ft.

CADDO PARISH—PINE ISLAND

C H. French's No. 7 Muslow, NE SE, Sec. 31-21-15 ..... Cmtd. 6-in. 1,292 ft.; W.O.S.R. 1,670 ft.

CLAIBORNE PARISH HOMER

Oakes et als' No. 1 Richardson, NE SE, Sec. 19-21-7 .... S.D. 1,112 ft; in litigation.

LASALLE PARISH—URANIA

Air Lift Oil Co.'s No. 8 Urania, Sec. 18-10-2e ..... Coring 1,270 ft.
Kinney, Hardtner & Randall's No. 1 Kinney, SW SW, Sec. 7-10-2e ..... S.D. 1,570 ft.
Philp et als' No. 1 Urania, SE cor. NE NE, Sec. 1-10-1e.. Tested 500,000 ft. gas and sanded up; C.O.; setting liner to test; T.D. 730 ft.
Randall et als' No. 3 Urania, Sec. 1-10-1e ..... S.D. 675 ft.
Trio Oil Co.'s No. 2 Urania, NE cor. SW SW NW, Sec. 19-10-1e ..... Rigging up.

MOREHOUSE PARISH

Bahan & Bahan's No. 1 Feazel, 330 ft. S, 280 ft. W, NE cor., Sec. 3-20-4 ..... Derrick.
J. S. Herkness' No. 10 Bowles, 1,914 ft. N, 528 ft. W, SE cor. SW, Sec. 17-20-5 ..... Drlg. 1,880 ft.
J. S. Herkness' No. 11 Bowles, 4,620 ft. S, 1,980 ft. E, NW cor. Sec. 18-20-5 ..... Derrick.
J. S. Herkness' No. 12 Bowles, 3,393 ft. E, 3,300 ft. S, NW cor. Sec. 18-20-5 ..... Location.
Magnolia Pet. Co.'s No. 5 U. S., 620 ft. N, 330 ft. W, SE cor. NE SW, Sec. 29-21-5 ..... Estimated 5,000,000 ft. gas; drill stem stuck; sidetracking; T.D. 2,368 ft.
Southern Carbon Co.'s No. 12 Tensas, 660, ft. S, 660 ft. E, NW cor., Sec. 2-20-4 ..... Drlg. 1,500 ft.
United Carbon Co.'s No. 2 Patton, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 2-20-4 ..... Location.
United Carbon Co.'s No. 3 Patton, 660 ft. W, 660 ft. S, NE cor. SE, Sec. 2-20-4 ..... Location.

OUACHITA PARISH

Amalgamated Carbon Co.'s No. 2 Cole, 742 ft. E, 703 ft. S, NW cor., Sec. 43-19-4 ..... Derrick.
Amalgamated Carbon Co.'s No. 3 Cole, 1,616 ft. E, 721 ft. S, NW cor., Sec. 43-19-4 ..... Began drlg. Oct. 5; cmtd. 12-in. 182 ft.
Ark.-La. P. L. Co.'s No. 3 Rea & Green, 1,526 ft. W, 1,350 ft. S, NE cor., Sec. 11, in Sec. 52-18-4 ..... Began drlg. Oct. 1.; cmtd. 12½-in. 168 ft., 8-in. 832 ft.
Austin & Jordan's No. 1 Chauvin, 110 ft. E, 329 ft. S, most northerly cor., Sec. 62-18-3 ..... Began drlg. Sept. 21; cmtd. 12-in. 184 ft; 8-in. 810 ft; 6-in. 2,178 ft.
Austin & Jordan's No. 2 Wall, Sec. 11-18-3 ..... Began drlg. Sept. 13; cmtd. 13-in. 184 ft; 8-in. 815 ft; 6-in. 2,178 ft.
Chauvin Gas Co.'s No. 1 W. Va., 593 ft. E, 147 ft. S, NE cor., Sec. 46, in Sec. 3-18-4 ..... Drlg. 2,129 ft.
Hope Producing Co.'s No. 1 Fairbanks, 660 ft. N, 624 ft. E, SW cor. SE, Sec. 25-20-4 ..... Rig up.
Hope Producing Co.'s No. 2 Fairbanks, 1,876 ft. E, 628 ft. N, SW cor. SE, Sec. 25-20-4 ..... Location.
Hope Producing Co.'s No. 3 Fairbanks, 1,876 ft. E, 628 ft. S, NW cor. NE, Sec. 36-20-4 ..... Location.
Imperial O. & G. Products Co.'s No. 10 Stubbs, 2,402 ft. W, 395 ft. N, common cor. Secs. 12, 13 and 45, in Sec. 12-19-13 ..... Drlg. gumbo 1,620 ft.
G. E. Jordan's No. 1 Anding, NW NE, Sec. 18-18-5 ..... Plugged back to 2,234 ft; T.D. 2,480 ft.
Jordan Drlg. Co.'s No. 5 Cole, 680 ft. S, 602 ft. W, common cor. Secs. 1, 2 and 35, in Sec. 35-18-3 ..... Cmtd. 8-in. 820 ft.
Mack & Pipes' No. 2 Slagle-Johnson, 446 ft. S, 649 ft. W, northwesterly cor., Sec. 47, in Sec. 48-18-4 ..... Location.
Mack & Pipes' No. 3 Slagle-Johnson, 642 ft. S, 530 ft. W, northeasterly cor., Sec. 47, in Sec. 47-18-4 ..... Cmtd. 8-in. 820 ft.; drlg. 1,890 ft.
Magnolia Pet. Co.'s No. 2 fee 401, 660 ft. S, 660 ft. E, NW cor., Sec. 2-18-3 ..... Derrick.
Magnolia Pet. Co.'s No. 3 fee 404, 660 ft. N, 660 ft. E, SW cor., Sec. 11-19-5 ..... Coring 2,274 ft.
Magnolia Pet. Co.'s No. 4 U. S., Sec. 20-19-5; reported completed July 31, in error ..... Tested 1,000,000 ft. gas at 515 lbs. rock pressure; set liner 2,528 ft; bailed dry; plugged back to 2,200 ft.; est. 500,000 ft. gas 2,990 ft; W.O; T.D. 2,528 ft.
Palmer Corp.'s No. 1 Cagle, 1,964 ft. S, 476 ft. E, NW cor., Sec. 7-18-5 ..... Rigging up.
J. E. Sandridge, Jr.'s No. 1 W. E. Montgomery, 568 ft. N, 410 ft. E, SW cor., Sec. 18-18-5 ..... Drlg. 1,200 ft.
Southern Carbon Co.'s No. 54 fee, 660 ft. N, 674 ft. W, SE cor. NE, Sec. 13-19-4 ..... T.A. 2,385 ft.
Southern Carbon Co.'s No. 4 Phillips, 660 ft. S, 660 ft. E, NW cor., Sec. 8-19-4 ..... Rigging up.
Stubbs, trustee's No. 1 Linton Stubbs, 203 ft. E, 121 ft. S, Sec. 19-19-4 ..... S.D. 1,690 ft.
Trousdale & Wright's No. 1 Kate Cole, 296 ft. S, 47 ft. W, common cor. Secs. 8, 9 and 42 in Sec. 42-18-4 .... Began drilling Oct. 6; cmtd. 12½-in. 200 ft.
United Oil & Nat. Gas Products Co. of La.'s No. 5 Guthrie, 6,896 ft. N, 6,022 ft. W, cor. Secs. 49, 26, and 25, Sec. 49-20-5 ..... Derrick.
United Oil & Nat. Gas Products Co. of La.'s No. 2 Cole, 660 ft. S, 594 ft. E, C, Sec. 26-20-4 ..... Derrick.

RED RIVER PARISH

Joe Danciger et als' No. 1 Pickett, 6,621 ft. S, 2,623 ft. W, NE cor., Sec. 15-13-11, in Sec. 23-13-11 ..... C.O. 2,400 ft; T.D. 2,555 ft.
Root Refineries, Inc.'s No. 1 Home State & Savings Bank, 330 ft. N, 330 ft. W, C, Sec. 8-13-10 ..... Oil show 2,570 ft; drill stem test; S.W; cored sand showing gas 2,598 ft; S.D. 2,667 ft.
Triple Oil Co.'s No. 1 W. M. Pollock, Sec. 32-13-11 ..... Drlg. 1,480 ft.

RICHLAND PARISH

Ark.-La. P. L. Co.'s No 1 Chenault, 1,980 ft. W, NW, C, SE SE, Sec. 2-16-6 ..... Rig up.
W. C. Feazel's No. 1 Brown, 2,800 ft. W, 1,760 ft. S, NE cor., Sec. 27-16-6 ..... Cmtd. 6-in. 2,279 ft.
W. C. Feazel's No. 2 Brown, 1,940 ft. W, 185 ft. N, SE cor. Sec. 22-16-6 ..... Began drlg. Oct. 2; cmtd. 12-in 203 ft.; 8-in. 860 ft.
Feazel, Bendel & Brown's No. 1 J. H. Hemler, 660 ft. S, 660 ft. W, NE cor. NW, Sec. 23-16-6 ..... Cmtd. 6-in. 2,281 ft.
Hope Prod. Co.'s No. 1 J. H. Hemler, 660 ft. S, 660 ft. W, NE cor., Sec. 11-16-6 ..... Drlg. 2,035 ft.
Hope Prod. Co.'s No. 1 Thomason, 2,386 ft. W, 660 ft. S, NE cor., Sec. 11-16-6 ..... Drlg. 950 ft.
Magnolia Pet. Co.'s No. 2 Hatch, 180 ft. N, 660 ft. W, SE cor. NE SE, Sec. 2-15-5 ..... Drlg. sandy shale 2,546 ft.
Magnolia Pet. Co.'s No. 4 C. M. Noble, 400 ft. S, 660 ft. W, NE cor. SE NE, Sec. 35-16-5 ..... Location.
M. L. Meredith's No. 1 Holdness, 1,980 ft. S, 990 ft. W, NE cor., Sec. 15-16-6 ..... Rigging up.
Northern La. Nat. Gas Co.'s No. 4 Boykin, Sec. 20-17-14.. Drlg. shale and boulders 1,893 ft.
Palmer Corp.'s No. 2 Earle, 1,980 ft. N, 1,320 ft. W, SE cor., Sec. 31-17-6 ..... Derrick.
Palmer Corp.'s No. 1 Eubanks, 1,100 ft. N, 350 ft. E, SW cor. SE NW, Sec. 26-17-6 ..... Drlg. shale 2,165 ft.
Palmer Corp.'s No. 1 McCoy, Sec. 29-16-6 ..... Comp. June 10, 1927 by S. D. Hunter; 15,000,000 ft. gas.; T.D. 2,427 ft.; arranging recement 4½-in. 2,427 ft. to deepen.
Palmer Corp.'s No. 4 Rhymes, 660 ft. S, 1,320 ft. W, NE cor. NW, Sec. 28-17-6 ..... Drlg. in red beds 2,615 ft.
Southern Carbon Co.'s No. 1 Binion & Sartor, 660 ft. N, 1,320 ft. E, SW cor. SE, Sec. 21-17-6 ..... Drlg. 2,355 ft.
United Carbon Co.'s No. 1 Thornby, 660 ft. W, 660 ft. N, SE cor. NW NE, Sec. 12-16-6 ..... Cmtd. 6-in. 2,280 ft.

SABINE PARISH—PLEASANT HILL

Bridges-Clark Oil Co.'s No. 2 Williams, 2,150 ft. W, 2,000 ft. S, NE cor., Sec. 33-10-12 ..... Began drlg. Oct. 2; cmtd. 10-in. 103 ft.; drlg. 1,060 ft.
Magnolia Pet. Co.'s No. 4 E. E. Hall, 355 ft. N, 343 ft. W, SE cor. NW SW, Sec. 33-10-12 ..... Location.

UNION PARISH

Bahan & Bahan's No. 1 Bess, 47 ft. S, 64 ft. W, NE cor. NW, Sec. 11-20-3 ..... Location.
Bahan & Bahan's No. 3 Peake, 1,215 ft. S, 100 ft. W, NE cor., Sec. 17-20-4 ..... Cmtd. 6-in. 2,100 ft.
Bahan & Bahan's No. 1 Parks, 948 ft. W, 335 ft. S, NE cor. SE, Sec. 2-20-3 ..... Began drlg. Oct. 6; cmtd. 12-in. 185 ft.; 8-in. 787 ft.; 6-in. 2,090 ft.
E. S. Hall's No. 2 Spencer, 317 ft. W, 182 ft. S, NE cor. NW SE, Sec. 2-20-3 ..... Rigging up.
Industrial Gas Co.'s No. 1 Jenny, 2,629 ft. N, 657 ft. E, SW cor., Sec. 6-20-4 ..... Cmtd. 6-in. 2,075 ft.
Interstate Nat. Gas Co.'s No. 23 fee, 660 ft. S, 660 ft. E, NW cor. Sec. 33-20-3 ..... Rigging up.

WEBSTER PARISH—COTTON VALLEY

La. Oil Ref. Corp.'s No. 9 Gray, 1,980 ft. S, 660 ft. W, NE cor. NW, Sec. 29-21-10 ..... Cmtd. 6⅝-in. 4,300 ft.
Magnolia Pet. Co.'s No. 1 McCook & Hibbler, C SW SW, Sec. 22-21-10 ..... Drlg. hard gray sand 6,949 ft.
Ohio Oil Co.'s No. 45 Bodcaw, 660 ft. N, 600 ft. W, SE cor. SW SW, Sec. 21-21-10 ..... Cmtd. 8⅝-in. 3,500 ft.
Palmer Corp.'s No. 1 Sally Coyle, 660 ft. S, 660 ft. W, NE cor. NE SW, Sec. 28-21-10 ..... Drlg. 4,401 ft.
Standard Oil Co.'s No. 3-D Bodcaw, 660 ft. N, 660 ft. E, SW cor. SE NE, Sec. 28-21-10 ..... Drlg. shale 4,075 ft.

WEBSTER PARISH—SAREPTA AND SHONGALOO

J. W. Clark, trustee's No. 1 L. H. Wise, 1,980 ft. E, 660 ft. S, NW cor., Sec. 30-23-9 ..... Cmtd. 6.-in. 2,740 ft.
Pat Hudson's No. 1 L. S. Gardner, 150 ft. E, 200 ft. S, NW cor. SW NE, Sec. 1-22-11 ..... Drlg. 2,300 ft.
F. E. Estes' No. 2 Pardee, 1,270 ft. W, 50 ft. S, NE cor. NW, Sec. 3-22-11 ..... Rigging up.
Jacob Larkin, trustee 's No. 2 Pardee Co., 1,120 ft. W, 200 ft. S, C, Sec. 3-22-11 ..... Location.
Magnolia Pet. Co.'s No. 1 C. O. Bailey, 100 ft. N, 660 ft. E, SW cor. NW NE, Sec. 29-23-9 ..... Plugged back to 2,761 ft.; T.D. 2,782 ft.
Magnolia Pet. Co.'s No. 1 N. T. Knight, 330 ft. S, 330 ft. E, NW cor. SE SE, Sec. 33-23-9 ..... Drlg. sand 2,687 ft.
Magnolia Pet. Co.'s No. 2 Scroggins, 330 ft. S, 376 ft. E, NW cor. SW NW, Sec. 1-22-11 ..... Sandy shale 2,682 ft.
Sarepta Oil Co.'s No. 1 L. S. Gardner, 300 ft. S, 300 ft. W, C, Sec. 1-22-11 ..... Drlg. shale 2,650 ft.
Woodmansee et als' No. 1 Boyd, 200 ft. S, 200 ft. E, NW cor. SE SW, Sec. 3-22-11 ..... Derrick.

WINN PARISH—URANIA

Gardner, Hunter & Brown's No. 16 Harper, 330 ft. N, 400 ft. E, SW cor. NW NE, Sec. 26-10-1e ..... W.O.S.R; 1,495 ft.

ARKANSAS

NEVADA COUNTY

C F. Steele's No. 1 E. W. Groves, Sec. 21-14-20 ..... S.D. for wtr; T.D. 2,821 ft.

MOUNT HOLLY

Houston Oil Co.'s No. 1-B Wilson, 150 ft. N, 150 ft. E, SW cor. SW NW, Sec. 25-15-18 ..... Tested S.W. 2,830-35 ft.; cored sand showing oil 2,872-83 ft.; arranging D.S. test.

OUACHITA COUNTY—SMACKOVER

Ark. Nat Gas Corp.'s No. 2 Avera, 330 ft. S, 330 ft. E, NW cor. SE SW, Sec. 35-15-15 ..... Location.
B F. Foster's No. 1 Murphy, SW cor. NE SW, Sec. 35-15-16 ..... Standing 400 ft. fluid; 30% S.W. 49 ft.; broken sand 2,042 ft.
L. H. Hamilton's No. 1 Arnold & Doyle, SE SE, Sec. 23-15-16 ..... Standing 400 ft. in fluid; 23 ft. broken sand; T.D. 2,010 ft.
Magna Prod. Co.'s No. 5-B McKenzie, Sec. 36-15-16 ..... Cmtd. 6-in. 1,955 ft.
Marine Oil Co.'s No. 7-A Haya, Sec. 4-16-15 ..... Drlg. 2,165 ft.
Oil Field Corp.'s No. 10 McKenzie, 265 ft. E, 185 ft. N, SW cor, SE NE, Sec. 36-15-16 ..... Rig up.
Phillips Pet. Co.'s No. 2 Clayton, 250 ft. N, 250 ft. E, SW cor. NW NE, Sec. 34-15-15 ..... Pumped 40 bbls. first 6 hours, sanded up; cleaned out; pumped 70 bbls. 2% S.W.; arranging to deepen.

The most popular pump in the world

..and there is a reason

FOR SEVERAL YEARS our modern, fully equipped factory has been operating DAY AND NIGHT in an effort to keep up with the tremendous popularity of the EPCO Pump.

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DISTRIBUTED BY THE NATIONAL SUPPLY COMPANIES

Phillips Pet. Co.'s No. 4 Scott, 250 ft. S, 350 ft. W, NE cor. SW NE, Sec. 34-15-15 ..... Pumped 200 bbls. fluid, 60% S.W.; arranging to plug back 4 ft.; T.D. 2,024 ft.

J. D. Reynolds' No. 1 fee, SE cor. SE SW, Sec. 27-15-15 .. Standing 400 ft. in fluid; 27-ft. sand; W.O.S.R; T.D. 2,047 ft.

J. D. Reynolds' No. 2 fee, 150 ft. N, 150 ft. E, SW cor. SE SW, Sec. 27-15-15 ..... Reaming to set 6-in.; T.D. 2,043 ft.

Shell Pet. Corp.'s No. 5 Williams, 210 ft. S, 260 ft. W, NE cor. NW SE, Sec. 34-15-15 ..... Cmtd. 6⅝-in. 1,953 ft.

Simms Oil Co.'s No. 3 E. Johnson, 265 ft. E, 300 ft. S, NW cor. NE SE, Sec. 34-15-15 ..... W.O.S.R. 100 ft. oil; 23 ft. broken sand; T.D. 1,986 ft.

Simms Oil Co.'s No. 4 Johnson, 330 ft. N, 85 ft. E, SW cor. NE SE, Sec. 34-15-15 ..... Rig up.

Skelly Oil Co.'s No. 1 Langley, 250 ft. N, 250 ft. E, SW, cor. NW SW, Sec. 35-15-15 ..... W.O.S.R; 100 ft. oil; 19 ft. broken sand; T.D. 1,998 ft.

Skelly Oil Co.'s No. 2 Langley, 250 ft. N, 250 ft. W, SE cor. NW SW, Sec. 35-15-15 ..... Location.

Skelly Oil Co.'s No. 4 Woods, 300 ft. E, 200 ft. N, SW cor. NE NE, Sec. 34-15-15 ..... Cmtd. 10-in. 68 ft.; 6⅝-in. 2,914 ft.; T.D. 2,022 ft.

Southern Prod. Co.'s No. 1-A Watts, SW cor. SW SE, Sec. 27-15-15 ..... Derrick.

Standard Oil Co.'s No. 13 Arnold, 200 ft. S, 200 ft. E. NW cor. NE NE, Sec. 26-15-16 ..... Location.

Standard Oil Co.'s No. 8 Powell, 200 ft. S, 200 ft. W. NE cor. SE NW, Sec. 34-15-15 ..... Cmtd. 6⅝-in. 1,959 ft.

J. D. Wingfield's No. 1 Martin, SW cor., Sec. 26-15-15 .. Coring 2,215 ft.

OUACHITA COUNTY—STEPHENS

La. Oil Refining Corp.'s No. 1 Green, 330 ft. S, 330 ft. E, NW cor. Sec. 22-15-19 ..... Completed March 28, 1926; 100 bbls. 1,555 ft.; arranging to deepen.

La. Oil Ref. Corp.'s No. 1 Haltom, Sec. 15-15-19 ..... Comp. Sept. 12, 1926; 20,000,000 ft. gas 1,554 ft.; arranging to deepen.

UNION COUNTY—CHAMPAGNOLLE

Magnolia Pet. Co.'s No. 1 Schmidt, 300 ft. N, 300 ft. W, SE cor. NW SW, Sec. 5-17-14 ..... Tested 15,000,000 ft. dry gas 2,708-15 ft; cmtd. 8-in. 2,708 ft; T.D. 2,715 ft.

Rovenger Oil Corp.'s No. 3-B Perdue, 330 ft. S. 330 ft. W, NE cor. SE NE, Sec. 9-17-15 ..... 400 ft. fluid in hole; W.O.S.R; T. D. 3,280 ft.

UNION COUNTY—EL DORADO

J. P. Hawkins' No. 1 Goodwin, Sec. 3-17-15 ..... S.D. 2,575 ft; W.O.

Rice et als' No. 1 W. Raltey, 150 ft. S, 150 ft. E, NW cor. SW, Sec. 7-17-15 ..... Spudded July 18; cmtd. 10-in. at 92 ft.

UNION COUNTY—SMACKOVER

Ark. Fuel Oil Co.'s No. 5 Alphin, Sec. 11-16-16 ..... O.W.D.D.; perforated csg. 1,960-70 ft.; swabbed dry; filled up 40 ft. oil in hour, W. O.

E. L. Chapman's No. 2 Purifoy, Sec. 2-16-16 ..... Plug back to 2,316 ft; tested S.W. 2,350 ft.; cmtd. bottom; drlg out cmt. 2,005-2,365 ft; T.D. 2,385 ft. ft.

Foster et als' No. 1 J. V. Spohr, 330 ft. S, 330 ft. W, NE cor. SE SW, Sec. 35-15-16 ..... Rig up.

E. M. Jones' No. 1 H. Murphy, 211 ft. S, 211 ft. E, NW cor. Lot 3, NW, Sec. 2-16-15 ..... W.O.S.R; 90 ft. fluid in hole from 17 ft. broken sand; T.D. 1,981 ft.

E. M. Jones' No. 2 H. Murphy, 200 ft. E, CWL, Lot 1, NE, Sec. 2-16-15 ..... Cmt. 6⅝-in. 1,983 ft.; drlg. 1,983 ft.

Lion Oil Ref. Co.'s No. 1 James, CWL, Lot 2, NW, Sec. 6-16-15 ..... Began drlg. Oct. 2.; cmtd. 10-in. 105 ft.; drlg. 1,700 ft.

Joe Marr's No. 2 Goodwin, 150 ft. E, 250 ft. N, SW cor., Sec. 3-16-16 ..... S.D. 2,470 ft.

J. D. Reynolds' No. 1 fee, SE cor. SE SW, Sec. 27-15-15 .. Rigging up.

Shell Pet. Co.'s No. 1 Carroll, 1,320 ft. W, 330 ft. N, SE cor. NE SW, Sec. 19-18-16 ..... Began drlg. Oct. 5; cmtd. 12½-in. 163 ft.; drlg 1,700 ft.

EAST TEXAS
PANOLA COUNTY

Eureka Nat. Gas Co.'s No. 1 Jeter, 300 ft. S, 300 ft. W, NE cor. John Womack Sur. ..... Drlg. hard shale 2,400 ft.

S. H. Gardner's No. 5 Brumble, 5,966 ft. E, 4,132 ft. S, NW cor. B. C. Jordan Sur. ..... S. D. for water; T.D. 1,000 ft

S. H. Gardner's No. 4 Roquemore, 5,176 ft. E, 4,432 ft. S, NW cor. B. C. Jordan Sur. ..... Location.

Magnolia Pet. Co.'s No. 1 Davenport, 660 ft. N, 660 ft. W, SE cor. Jessie Dunlop Sur. ..... D.S. test 5,000,000 ft. gas 2,820 ft.; cmtd. 5¾-in.; T.D. 2,822 ft.

Magnolia Pet. Co.'s No. 3 T. C. Adams, 550 ft. S, 280 ft. E, NW cor. Jas. Matthews Survey ..... O.W.D.D.; reset liner 2,766 ft.

Nemours Corp.'s No. 5 A. C. Tiller, 300 ft S, 300 ft. W, NE cor. W. D. Mathews Sur. ..... Cmtd. 6-in. 2,285 ft.

The Texas Co.'s No. 7 G. W. Brumble, 3,415 ft. W, 330 ft. N, SE cor. E. F. Mitcheson Sur. ..... Began drlg. Oct. 3; cmtd. 10-in. 83 ft.

The Texas Co.'s No. 8 G. W. Brumble, 1,085 ft. E, 330 ft. N, SW cor. John Womack Sur. ..... Derrick.

D. Thomason's No. 2 Tillery, 393 ft. N, 332 ft. E, SW cor. Jane Thorpe Sur. ..... Rig up.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 46)

CATAHOULA PARISH

Lochnager Pet. Co.'s No. 1 Taliaferro, 572 ft. E. 396 ft. S, C, Sec. 26-9-6 ..... S.D. 900 ft.

CLAIBORNE PARISH

El Dorado Chief Oil Co.'s No. 1 Dance, C SW NE, Sec. 27-20-7 ..... S.D. fuel; T.D. 1,615 ft.

Leue Oil Co.'s No. 1 Taylor, Sec. 16-22-6 ..... Derrick.

Triangle Drlg. Co.'s No. 1 Kilpatrick, 660 ft. S, 660 ft. E, NW cor. SW NE, Sec. 7-19-5 ..... Cmtd. 15½-in. 496 ft.; building heavier derrick.

DESOTO PARISH

Benson Oil Co.'s No. 1 Hill, 1,8455 ft. S, 1,26. ft. W, NE cor., Sec. 4-10-13 ..... Rigging up.

P. J. Becker, trustee's No. 1 Tull, SW cor. NE NE, Sec. 23-12-15 ..... Fishing 7 joints drill stem; T.D. 2,475 ft.

Longstreet Synd.'s No. 1 Ramsey, NE cor. SW NE, Sec. 33-13-16 ..... Changing to heavy rig and arranging to sidetrack; T.D. 2,802 ft.

Magnolia Pet. Co.'s No. 1 Anna Mason, 990 ft. S, 990 ft. E, NW cor. SW, Sec. 27-12-11 ..... Drlg. 720 ft.

E. O. Roy's No. 1 Rogers, Sec 13-13-14 ..... Drlg. 2,890 ft.

FRANKLIN PARISH

Davis et als' No 1 Moore, 600 ft. W, 200 ft. S, NE cor. Sec. 12-11-6 ..... S.D. 1,430 ft.

LASALLE PARISH

Tunica Pet. Co.'s No. 50 L. & A., 200 ft. N, 660 ft. E, SW cor. NW, Sec. 16-7-2e ..... Cmtd. 6-in. 802 ft.; S.D.; W.O.S.R; T.D. 815 ft.

MOREHOUSE PARISH

J. P. White's No. 1 Chess-Wymond, Sec. 32-19-6 ..... Tested S.W. 3,025 ft; W.O.

Enlist the Strongest Possible Backing in your fight with "CUT OIL"

You wouldn't refuse the backing of a veteran army if you wanted to conquer an enemy city. There is no need for you to attack a "cut oil" problem with any but the most experienced and capable assistance.

WHENEVER emulsification of petroleum threatens your profits, your request will enlist in your cause the entire resources of the manufacturers of Tret-O-litE. These resources include: thirteen years of experience gained in treating successfully thousands of varieties of "cut oil" and "B. S."—remarkable laboratory, research and manufacturing facilities—and a staff of field experts, one of whom is available in each district.

WM. S. BARNICKEL & COMPANY
Webster Groves, Mo.

Tret-O-litE

Rainbow Oil Co.'s No. 1 Louisville Cooperage Co., 990 ft. S and E, NW cor. NE, Sec. 33-22-8 ..... Derrick.

NATCHITOCHES PARISH

S. D. McDaniel's No. 2 Clark & Morse, 800 ft. E, 350 ft. N, C, Sec. 23-5-6 ..... Tested 1,000,000 ft. gas and S.W. 8 ft.; S.D. for orders; T.D. 2,536 ft.

Nichols & Wilder's No. 1 Clark, 150 ft. W, 250 ft. N, SE cor., Sec. 10-10-8 ..... Rigging up.

Robeline O. & G. Co.'s No. 1, NE SW, Sec. 7-8-9 ..... Drill stem stuck; waiting orders; claim show gas; T.D. 3,230 ft.

OUACHITA PARISH

Farish & Russell's No. 1 School fee, NE, Sce. 16-16-4 .... S.D.; W.O. 4,350 ft.

S. D. Hunter's No. 1 West Va. Lbr. Co. N½ NE, Sec 25-18-5 ..... Began drlg. Oct. 8; drlg 100 ft.

RAPIDES PARISH

Ayers Bros.' No. 1 Wickliff, 2,790 ft. N, 150 ft. E, SW cor., Sec. 9-5n-2e ..... S.D. for water; T.D. 900 ft.

RED RIVER PARISH

W. D. Ball's No. 1 Krumholtz, 660 ft. S, 660 ft. S, NW cor., Sec. 32-14-10 ..... Drlg. 602 ft.

Benedum & Trees Oil Co.'s No. 1 Franklin Realty Co., 350 ft. E, 350 ft. S, NW cor., Sec. 29-11-9 ..... Drlg. 3,313 ft.

Eylers O. & G. Co.'s No. 4 Chaffraix, 150 ft. S, 170 ft. W, NE cor. SW SE, Sec. 30-12-10 ..... Drlg. 1,842 ft.

LeGrande et als' No. 1 Sample, Sec. 11-14-11 ..... Rigging up.

D. H. Riddick's No. 1 Johnson, 500 ft. N, 500 ft. W, SE cor., Sec. 17-12-10 ..... Rigging up.

RICHLAND PARISH

Austin & McDonald's No. 2 Millsaps, SW cor., Sec. 17-17-6, Location. Waiting orders; T.D. 2,679 ft.

Austin & McDonald's No. 3 Millsaps, 1,980 ft. S, 660 ft. E, NW cor., Sec. 16-17-6 ..... Tested S.W.; W.O. 2,477 ft.

Austin & McDonald's No. 4 Millsaps, NW cor., Sec. 16-7-6. Location.

Austin & McDonald's No. 5 Millsaps, 2,640 ft. N, 1,320 ft. W, SE cor., Sec. 8-17-6 ..... Derrick.

Palmer Corp.'s No. 2 Miles, 723 ft., E, 660 ft. S, NW cor. NE, Sec. 12-17-6 ..... Cmtd. 6-in. 2,815 ft.

United Carbon Co.'s No. 1 Thornby, 660 ft. W, 650 ft. N, SE cor. NW NE, Sec. 12-16-6 ..... Cmtd. 6-in. 2,280 ft.

SABINE PARISH

R. L. Gay's No. 1-A Bowman-Hicks, 900 ft. S, 200 ft. E, C, Sec. 34-8-12 ..... Drlg. 986 ft.

R. L. Gay, trustee's No. 4 Bowman-Hicks, SE cor. NW SE, Sec. 14-7-14 ..... W.O.S.R.; 1,800 ft. in oil, little S. W.; T.D. 2,350 ft.

R. L. Gay's No. 5 Bowman-Hicks, 1,120 ft. W, 920 ft. N, SE cor., Sec. 14-7-14 ..... Location.

R. L. Gay, trustee's No. 1 Long-Bell Lbr. Co., NE cor. NW NW, Sec. 26-8-14 ..... Waiting on 6-in. to set; T.D. 3,425 ft.

R. L. Gay, trustee's No. 2 Sabine Lbr. Co., Sec. 23-7-14.. Drlg.lime 3,533 ft.

UNION PARISH

Fred Stovall's No. 1 Stovall, 1,820 ft. E, 350 ft. N, SW cor., Sec. 32-23-4 ..... Rig up.

WEBSTER PARISH

F. M. Fuller's No. 1 Monzingo, 200 ft. N, 200 ft. W, SE cor., Sec. 27-18-8 ..... Rig up.

Paul C. Warren et al's No. 1 Martin, 305 ft. N, 212 ft. E. SW cor. Sec. 20-20-9 ..... Derrick.

WEST CARROLL PARISH

H. L. Hunt's No. 1 Chickasaw Imp. Co., NE cor. NE, Sec. 24-23-11 ..... Top gas rock 2,970 ft.; arranging test 2,990 ft.

Palmer Corp.'s No. 1 Marston, 3,958 ft. N, 1,855 ft. E, SW cor., Sec. 12-19-10 ..... Drlg. shale 2,150 ft.

ARKANSAS

ASHLEY COUNTY

J. G. Marcum, trustee's No. 1 McGarry, 300 ft. W, 100 ft. S, C, Sec. 9-19-4 ..... Top gas rock 2,846 ft.; drlg 2,865 ft.

CLARK COUNTY

Wm. Henry, trustee's No. 1 Clark, Sec. 34-9-21 ..... S.D. 1,200 ft.

COLUMBIA COUNTY

Talbot & Markle's No. 1 Copeland, 300 ft. S, 300 ft. W, NE cor. SE NW, Sec. 31-19-19 ..... Drlg. sandy lime 2,300 ft.

FAULKNER COUNTY

Gold Creek Oil & Gas Co.'s No. 2 Stermer, SE cor. NW SE, Sec. 17-4-13 ..... Rigging up.

GARLAND COUNTY

Givens et als' No. 1 Garrett, 660 ft. S, 660 ft. W, C, Sec. 1-3-19 ..... Began drlg. Aug. 10, 1926; hard sand 3,168-96 ft.; claims show gas; drlg.

GRANT COUNTY

Jones & Watkins' No. 1 Meek, Sec. 5-4-11 ..... T.A. 1,400 ft.

JOHNSON COUNTY

Ark.-La. P. L. Co.'s No. 2 Bynum, Sec. 12-10-24 ..... Drlg. shale 3,595 ft.

LINCOLN COUNTY

Pine Prairie O. & G. Co.'s No. 1 Carter ..... T.A. 2,176 ft.

LITTLE RIVER COUNTY

A. L. Buck's No. 1 Greason, NW NW, Sec. 25-12-32 .... Drlg. 1,550 ft.

Grotte et als' No. 1 Allen, Sec. 31-12-31 ..... T.A. 2,941 ft.

McDonald & Shaw's No. 1 W. E. Black, 240 ft. N, 450 ft. W, SE cor. SE NE, Sec. 12-13-28 ..... S.D. 1,542 ft.

LOGAN COUNTY

Ark. Nat. Gas Corp.'s No. 1 Hanna, Sec. 26-7-23 ..... Drlg. shale 3,890 ft.

MADISON COUNTY

Phillips Pet. Co. and F. S. Craver's No. 1, C, Sec. 11-14-28. Tested 250,000 ft. gas 63 ft.; drlg. 1,150 ft.

MILLER COUNTY

E. B. Lenz et als' No. 1 Bossier Co., NW cor. Sec. 13-15-26 Drlg. 2,820 ft.

OUACHITA COUNTY

Copenhaven et als' No. 1 Warnick, Sec. 2-15-17 ..... S.D. 2,190 ft.

C. H. McDonald's No. 1 Fogle, Sec. 13-14-16 ..... S.D. 2,301 ft.; W.O.

Timberlake et als' No 1 Cronner NW cor. SE NE, Sec. 26-14-13 ..... D.S. test dry 2,092-96 ft.; drlg. 2,290 ft.

The Texas Co.'s No. 1 Avery, 250 ft. N, 250 ft. E, SW cor., Sec. 35-15-15 ..... Cleaning out; T.D. 1,984 ft.

Wesson et als' No. 1 Booth, Sec. 13-15-19 ..... S.D. 2,203 ft.

POPE COUNTY

Ark.-La. P. L. Co.'s No. 1 McFaddin, Sec. 15-9-21 ..... Began drlg. Oct. 1; drlg. 260 ft.

PRAIRIE COUNTY

Transcontinental Oil Co.'s No. 1 Louis Novak, 330 ft. E, 330 ft. N, SW cor. SW NE, Sec. 36-2n-6 ..... Rigging up.

UNION COUNTY

Addie & Modisette's No. 1 Union Sawmill, SW cor. SW SE, Sec. 25-19-12 ..... Location.

Ark. Drlg. Co.'s No. 1 Norris, 150 ft. S, 150 ft. W, NE cor. SE SE, Sec. 17-18-12 ..... Cmtd. 10-in. 140 ft.; S. D. drlg. water well.

Sam Arrendale's No. 1 Gallagher & Nelson, 200 ft. N and W, SE cor. Lot 5, Sec. 18-18-17 ..... S.D. 2,268 ft.

W. M. Coates, trustee's No. 1 McDuffie, Sec. 32-19-17 .... Cmtd. 6⅝-in. 3,942 ft; to test 4½-ft. sand; T.D. 4,057 ft.

O. W. Estes' No. 1 Felsenthal, 330 ft. S, 330 ft. W, NE cor. NE NW Sec. 2-18-15 ..... Small show oil; bailed dry W.O. 2,158 ft.

E. M. Jones' No. 1 Loutre Lbr. Co., NE cor. NW SW, Sec. 17-19-14 ..... Began drlg. Oct. 4; cmtd. 10-in. 531 ft.

E. M. Jones' No. 1 Hardy & Murphy, 216 ft. N, 256 ft. W, SE cor. SW, Sec. 34-19-14 ..... Drlg. lime 3,455 ft.

McDonald Bros.' No. 1 Mayfield, Sec. 29-19-15 ..... S.D. 2,210 ft.

Stark et als' No. 1 Ainsworth, NE cor. NW NE, Sec. 8-19-16 ..... Derrick.

T. J. Woodley's No. 1 First Natl. Bank, NW cor., Sec. 34-19-18 ..... Derrick.

VAN BUREN COUNTY

Glenn Cole et als, trustee's No. 1 Scanlan, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-19-13 ..... S.D. 50 ft.

WASHINGTON COUNTY

O'Hara & Shetterly's No. 1 Boyd, SE cor. SE NE, Sec. 12-16-32 ..... Spudded Sept., 1928; S.D. 140 ft.; resumed drlg. Aug. 25; U.R.; T.D. 150 ft.

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 ..... Cmtd. 6-in. 1,320 ft.; S.D. 1,342 ft.

Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-32. S.D. 1,040 ft.; repairs.

WHITE COUNTY

Letona Synd.'s No. 1 Letona, SE cor. NW SW, Sec. 35-9-8. Drlg. black caving shale 3,490-3,500 ft.

EAST TEXAS

BOWIE COUNTY

Hooks O. & G. Co.'s No. 1 Lee Roseberry, L. T. King Sur.. Temp. abd.; T.D. 3,086 ft.

CAMP COUNTY

Rogers et als' No. 1 Enfelt, R. M. Montgomery Sur. .... Tested dry 1,870 ft.; S.D. 1,920 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossier, E. Hughhart Sur. .... Claim show oil and gas; S.D. 1,893 ft.

Shad Harper's No. 1 W. R. Garland, J. Wagley Sur. ..... S.D. 1,862 ft.

Johnson Pet Co.'s No. 2 Randolph, Edward Dean Sur... S.D. 1,440 ft.

SHELBY COUNTY

Benedum & Trees Oil Co.'s No. 1 Pickering Lbr. Co., 300 ft. S, 300 ft. W, NE cor. Lot 20, D.T.F. Yordt Sur... Drlg. 2,183 ft.

Chapperall Oil Co.'s No. 2 Holt, Matthew Moore Sur... S.D. for orders 3,004 ft.

Gulf Ref. Co.'s No. 2 Pickering, 463 ft. S, 29 ft. W, SW cor. P. W. Harvey Sur. in J. H. Patterson Sur. ..... Began drlg. Oct. 9.

MISSISSIPPI

ALCORN COUNTY

Alcorn Pet. Co.'s No. 1 Matthews, SE cor., Sec. 14-2s-7e.. Drlg. 2,700 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor., Sec. 20 13-3 ..... Quicksand 1,240 ft.

HINDS COUNTY

Harry Gerson's No. 1 Edward House, Blk. 16, West Jackson Subd., City of Jackson, in Twp. 5n, Range 1e .... Rig up.

Oscar Brown's No. 1 Riverside (formerly Hennessee et als') SE cor. SE SW, Sec. 23-16-5 ..... Set 12½-in. 30 ft; S.D. 1,050 ft.

Mrs. Reeder et als' No. 1 State, SE cor. NW NW, Sec. 25-6-1e ..... S.D. 2,895 ft.

South Christian Institute's No. 1 fee, SE SW, Sec. 29-6-4. Waiting on csg. to set; T.D. 1,203 ft.

HUMPHREYS COUNTY

E. C. Steele et als' No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w ..... Set 12½-in. 60 ft.; S.D.

LAUDERDALE COUNTY

Lauderdale O. & G. Co.'s No. 1 Lackey, 990 ft. S and E, NW cor. NE, Sec. 2-7-16 ..... Cored sand, shale and gumbo 2,494-2,500 ft.; S.D. 2,786 ft.

Meridian O. & G. Co.'s No. 1 Hauser, Sec. 33-8-18 .... S.D., gumbo 2,410 ft.

J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-6-14 ..... Derrick.

LAFAYETTE COUNTY

Banks-Goode et als' No. 1 May, 113½ rods S, 26 rods E, NW cor. SW, Sec. 22-10-1w ..... Derrick.

LINCOLN COUNTY

La.-Miss. Oil Co.'s No. 1 Pat Case, NE NE, Sec. 21-8-6 ... Spudded Feb. 17, 1929; S.D. 50 ft.; resumed drlg. Aug. 12; cmtd. 12½-in. 368 ft.; S.D., salt water sand 1,213 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... S.D.; waiting for 5 3/16-in. csg. 2,580 ft.

Amory Pet. Co.'s No. 1 Hall, Sec. 8-13-19 ..... Fish. for liner and tools 3,045 ft.

Park Bowser et als' No. 1 Cowart, second hole, Sec. 2-12-19 ..... S.D. 30 ft.

RANKIN COUNTY

Home Oil Prod. Co.'s No. 1 E. P. Rainey, NW NW, Sec. 13-5-1e ..... Drlg. sand rock 1,860 ft.

WARREN COUNTY

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-5 ..... Drlg. 2,400 ft.

YALOBUSHA COUNTY

Philip Bros.' No. 1 James, Sec. 20-11-5 ..... Drlg. dark slate, streaks of sand 3,252 ft.

Carter Oil Co. and J. D. Collett's No. 1 Blackmur, 330 ft. S, 990 ft. W, C, Sec. 14-11-4 ..... Location.

TENNESSEE

DECATUR COUNTY

Standard Oil Co. of La.'s No. 1 Wyatt ..... Drlg 1,285 ft.

Chester County Oil Co.'s No. 1 Montgomery ..... Cmtd. 6-in. 1,040 ft.; drlg. hard gray lime 1,165 ft.

ALABAMA

CHOCTAW COUNTY

Robinson & Greeer's No. 1 Douglas Oil Co., 320 ft. N, C, Sec. 15-19-2 ..... Coring 3,400 ft.

LAMAR COUNTY

Briggs & Knapp's No. 1 Wefel, Sec. 25-12-14 ..... Reaming to bottom; T.D. 1,180 ft.

SUMTER COUNTY

B. W. Bates' No. 1 fee, Sec. 3-18-1 ..... U.R. surface csg. at 300 ft.; to set 6-in

WASHINGTON COUNTY

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2 ..... S.D; S.W. flow at 1,450 ft., T.D.

S. A. Hobson's No. 1 Wilson, Sec. 27-7-1 ..... S.D. 700 ft.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 50)

W. R. French's No. 7 R. Allen, Blk. 20, 1,320 ft. N and W lines ..... Drlg. 700 ft. (core test).

Milam Drlg. Co.'s No. 6 Reilly Allen, SW part of county.. Drlg. 1,020 ft.

A. W. Dinn's No. 1-B Garcia ..... Abandoned 1,530 ft.

CALDWELL COUNTY

Morgan Bros.' No. 1 C. Malone, A. Floyd Sur. ..... Derrick.

Joe Bruner's No. 1 Neil, S. Morris Sur., 400 ft. NE and NW lines ..... Location.

Smi-Lock Oil Co.'s No. 1 Munster, Silas Fuqua Sur. .... Drlg. 3,135 ft.

Cranfill & Reynolds' No. 1 Berensdorf, A. Floyd Sur. .. Location.

W. H. Harper's No. 3 Thomas, J. Roberts Sur. ..... Drlg. 1,724 ft.

Harper et al's No. 2 Miller, P. Martinez Sur ..... Drlg. 1,650 ft.

H. C. Ratcliff's No. 1 J. E. Cardwell, J. P. Bell Sur. .... Abandoned 1,940 ft.

John T. Callihan et al's No. 1 W. Ellison ..... Drlg. 2,750 ft.

J. S. Brutsche's No. 1, R. L. Quinn Sur. ..... Dropped from reports.

DE WITT COUNTY

Gibson & McIntyre's No. 1 Wm. Van Roeder ..... Shut down 1,580 ft.

H. T. Ree's No. 1 Lunhardt ..... Derrick.

DUVAL COUNTY

Simms Oil Co.'s No. 5 Dinn, Sec. 62, 500 ft. W line, 660 ft. S. line ..... Location.

National Oil Co.'s No. 2 Ball, Agua Poquita Sur., Blk. 3.. Derrick.

Southern Oil Co.'s No. 1 Welder Ward, Sur. 215 ..... Location.

EDWARDS COUNTY

A. M. Griffith's No. 1 Wardlaw ..... Shut down 3,000 ft.

FAYETTE COUNTY

Muldoon Oil & Gas Co.'s No. 1 Kemp, M. Smith League .. Derrick.

W. J. Kelly's No. 1 Burke ..... Shut down 1,000 ft.; account of title.

GOLIAD COUNTY

Compton Oil Co.'s No. 1 Fromme, Dexter Survey..... Derrick.

Humble Oil & Refg. Co.'s No. 1-A Spangle ..... Drlg. 525 ft.

F. P. Zoch's No. 1 Kaufman ..... Drlg. 2,610 ft.

Mission Drlg. Co.'s No. 3 Roy Rand, 3 miles E of No. 2. This formerly carried in Bee County, Pettus Pool. ... Drlg. 4,862 ft.

Western Union Oil Co.'s No. 1 Lucas, Juan Moya Delgado Sur. ....Standing.

GONZALES COUNTY

Acme Royalty & Leasing Co.'s No. 1 Weber, Thomas Wright Survey ....Drlg. 460 ft.
Adams & Lyles' No. 1 Jackson Sur. ....Drlg. 800 ft.
Joe Bruner's No. 1 R. D. and J. C. Miller ....Shut down 3,000 ft
Crown Petroleum Co.'s No. 1 Hattenback ....Drlg. 2,600 ft.
Finnell & Elam's No. 1 Robinson, Liverpool Sur. ....Fishing 1,546 ft.
Hoffman et al's No. 1 Booker, J. Stewart Sur. ....Drlg. 1,025 ft.
Marshall & Moore's No. 1 St. Clair, R. H. Wymn Sur. ....Drlg. 1,700 ft.; steel derrick up.
L. L. Jones' No. 1 J. F. Kindred, W. W. Barnes Sur., 730 ft. W line, 1,000 ft. S line ....Location.
Linderman Bros.'s No. 1 F. H. Frampton ....Drlg. 1,390 ft.
Fort Bend Oil Co.'s No. 1 C. E. Ham ....Abandoned 3,300 ft.
Frank Sorrell's No. 2 Wilkenson ....Dropped from reports.
A. G. Kifer's No. 1 B. B. Dix ....Shut down 2,680 ft.

GUADALUPE COUNTY

H. H. Weinert's No. 1 A. E. Dowdy, J. C. Darst Sur., 110 ft. S line, 36 ft. E line ....Location.
H. H. Weinert's No. 2 A. E. Dowdy, J. C. Darst Sur., 100 ft. N line, 36 ft. E line....Location.
J. O. Dore's No. 1 Appling, H. Cottlebur ....Location.
Grayburg Oil Co.'s No. 1 Wells, Jose La Bume Sur. ....Drlg. 400 ft.
Pagenkopf & Kennon's No. 1 Holm, James Kent Sur., 7 miles E of Seguin....Set csg. 100 ft.
Sights' No. 1 Berring Green, DeWitt Sur. ....Fishing 2,240 ft.
L. W. Stieren's No. 1 S. H. Herman, Ragsdale Sur. ....Shut down 1,233 ft.
Sinclair Oil & Gas Co.'s No. 1 Koepp, W. H. Smith Sur. No. 62 ....Drlg. 1,350 ft.
Adams-Lyles-Walton's No. 1 Zoluroski, Jesus Cantu Sur...Corrected depth 953 ft.; standing.

HAYS COUNTY

E. A. Bucklin's No. 1 ....Set casing 540 ft.

JACKSON COUNTY

Wright Bros.' No. 6 Drushell ....Waiting orders 2,650 ft.
Wright Bros.' No. 7 Drushell ....5,375 ft.; waiting on casing.

JIM HOGG COUNTY

T. J. Conway's No. 2 Palacious, Sur. 232, Blk. 10 ....Location.
Deep Rock Oil Co.'s No. 1 Kelsey ....Drlg. 1,350 ft.
R. E. Moore's No. 1 Yaguirre, 150 ft. N & E lines Las Animas Grant ....Location.

JIM WELLS COUNTY

E. W. Ogden's No. 1 G. Farris, M. Perez Sur. ....Drlg. 3,040 ft.
Magnolia Pet. Co.'s No. 1 C. Cook, W. H. Sartain Sur., Blk. 45 ....Drlg. 4,775 ft.

KARNES COUNTY

J. B. Claypool's No. 1 Tom, V. Zepeda Sur., 850 ft. N line, 1,600 ft. E line ....Spudded in.
Benedum-Trees' No. 1 S. E. Crews, Britton Odem Sur. ....Drlg. 2,235 ft.
G. G. Fisher et al's No. 1 Barnett, 6 miles N of Karnes City ....Abandoned 3,000 ft.
Hurador Oil Co.'s No. 1 W. E. Porter ....Standing 2,516 ft.
The Texas Company's No. 1 Rhuman ....Drlg. 240 ft.

KERR COUNTY

L. R. Page and associates' No. 1 Real ....Shut down 3,671 ft.

KENDALL COUNTY

E. L. Maddox-Powers' No. 1 Haag, W. Avery Sur. ....Drlg. 400 ft.

KIMBLE COUNTY

Carl L. Bryant's No. 1 C. E. Lambert ....Drlg. 150 ft.
H. A. McLean & Jamison's No. 1 R. F. Cannon ....Shut down 995 ft.
J. B. Lindsay's No. 1 G. C. Anderson ....Dropped from reports.

KINNEY COUNTY

Lloyd Oil Co.'s No. 1 G. B. Moore, Survey 117 ....Drlg. 2,200 ft.

LIVE OAK COUNTY

Catlett et al's No. 1 Smith, 900 ft. SW line, 150 ft. NW line ....Location.
J. P. Lightfoot's No. 1 Lewis ....Drlg. 1,490 ft.
Dr. Frank Lynch's No. 1 Secrest, Simmons Tracts ....Drlg. 770 ft.

MAVERICK COUNTY

Ryan Consolidated Petroleum Co.'s No. 2 Indio Ranch ..Shut down 5,300 ft.
Rycade Oil Corp.'s No. 3 Chittim ....5,605 ft.; 9,750,000 ft. gas, 20 bbls. oil.
Rycade Oil Corp.'s No. 4 J. M. Chittim ....Drlg. 5,560 ft.; set casing.
Rycade Oil Corp.'s No. 4 Sullivan ....Drlg. 5,633 ft.
Rycade Oil Corp.'s No. 5 Chittim ....Drlg. 735 ft.
The Texas Company, 5 miles west Darling Switch ....Drlg. 2,650 ft.

MEDINA COUNTY

Pan American Petroleum Co.'s No. 1 Harrison, Sur. 799 ..Rigging up.
Peters et al's No. 1 Noonan, J. N. Alsbury Sur. ....Shut down 1,250 ft.
R. C. Hill's No. 1 A. Wuezbach, G. Areola Sur., 500 ft. E line, 600 ft. S line ....Location.
California-Medina's No. 1 Rothe ....Drlg. 3,442 ft.
A. U. Skogland's No. 1 Soothof, A. Smelzer No. 19 Sur. ..Shut down 900 ft.

MILAM COUNTY

Service Oil & Gas Co.'s No. 1 Muldrow, L. Taylor Sur., SE cor. ....Location.
E. L. Chapman's No. 2 Johnson, J. J. Acosta Sur. ....Location.
I. P. Sessions' No. 7 J. Bauer, T. J. Chambers Sur. ....Location.
E. L. Chapman's No. 1 Johnson, J. J. Acosta Sur. ....Shut down 1,335 ft.
Diggs and others' No. 1 Nolen ....Derrick.
Hill & Bonwell's No. 1 B. Booher, James Welch Sur. ..Dropped from reports.
Lloyd Oil Corp.'s No. 1 Camp, Acosta Sur. ....Derrick.
Lloyd Oil Corp.'s No. 1 San Clement, Fakes Sur. ....Spudded in.
A. H. Wray's No. 1 D. D. Fowler ....Drlg. 964 ft.

McMULLEN COUNTY

Sun Oil Co.'s No. 1 Berry, J. Poitenent Sur. No. 9 ....Location.
Natt Holman's No. 1 Shiner, H. M. Brewer Sur. ....Shut down 2,190 ft.

NUECES COUNTY

Nueces River Basin Dev. Co.'s No. 1 F. C. Allen ....Drlg. 3,023 ft.
R. & G. Corp.'s No. 1 Emily Wright Perkins ....Dropped from reports.
Trinity Drillers and Sun Co.'s No. 1 Tompkins ....Drlg. 3,300 ft.

SAN PATRICIO COUNTY

Magnolia Petroleum Co.'s No. 1 C. Freeman, Sec. 57 ....Drlg. 5,553 ft.
Houston Gulf Gas Co.'s No. 3 Welder ....Fishing 5,098 ft.

STARR COUNTY

The Texas Company's No. 4-A V. G. Guerra, Porcion 67, Share 305-D ....Drlg. 500 ft.
Smith & Adams' No. 1 Welch, Pedernal Sur. ....Drlg. 531 ft.
Ohio Oil Co.'s No. 1 Bass, Porcion 76, Blk. 71 ....Drilling.
Milam Drlg. Co.'s No. 5 R. Allen, Blk. 147 ....Location.
U. S. Oil & Gas Co.'s No. 1 Kelsey, Por. 76, Blk. 11 ....Standing.

WEBB COUNTY

L. U. Nelson's No. 2 Moglio, SE NW Sur. 673 ....Drlg. 1,300 ft.
Usher Carson's No. 2 D. Benavides, Sur. 1,613 ....Abandoned 2,535 ft.

WILLIAMSON COUNTY

M. L. Vaughan's No. 1 Logan D. Wright Sur., 300 ft. E line, 500 ft. S line ....Location.
Ray Oil Co.'s No. 1 W. J. Fouse, W. Donoho Sur. ....Location.
W. J. Harlan's No. 1 J. V. Stile, J. Bevil Sur., 600 ft. N line, 900 ft. E line ....Location.
F. M. Moss et al's No. 1 Kreuger, W. Cartwright Sur., SW cor. ....Location.
J. C. Hawkins, 1½ miles northwest discovery well ....Dropped from reports.

WILSON COUNTY

R. M. Sherer's No. 1 Tummilson, A. Trevena Sur. ....Drlg. 457 ft.
Grayburg Oil Co.'s No. 1 Tigler, Parrot Sur. ....Drlg. 3,142 ft.
R. M. Sherer's No. 1 First State Bank of Stockdale, Moran Sur. ....Drlg. 220 ft.

ZAPATA COUNTY

R. F. Blankenship's No. 1 G. T. Montemeyer, Sur. 45, Blk. 7, 150 ft. N & E lines ....Location.
John Pappas' No. 2 Cuellar, Por. 33 and 34 ....Drlg. 150 ft.
Hill et al's No. 1 A. O. de Vela, Blk. 30, El Grulle Sur. ....Drlg. 925 ft.
National Oil Co.'s No. 1 D. B. Adams ....Standing 690 ft.
Buck & Coursey's No. 1 Trevino, Sur. 1....Drlg. 1,640 ft.

ZAVALA COUNTY

Tritex Oil Co.'s No. 1 Clay Burns ....Drlg. 730 ft.
Tritex Oil Co.'s No. 4 West ....Drlg. 795 ft.
Tritex Oil Co.'s No. 1 Childress ....Drlg. 1,095 ft.

CALIFORNIA FIELDS

(Continued from Page 56)

completed last March flowing 1,460 bbls. per day from the Nordstrum zone at 5,899 feet.

The General Petroleum, largest single operator at Santa Fe Springs with 56 strings of tools to its credit, failed to add any new wells to its list of producers this last week, but probably will make up for lost time in the near future.

The Shell's No. 6 Thompson, a new well, failed to show much of a kick on a production test at 8,073 feet as it was good for approximately 450 bbls. only and the output is in addition showing a rather high cut. The Union Oil Co. and General Petroleum are running neck and neck for production honors, each with a current daily output of 47,500 bbls. The Standard Oil Co. is in third place with 39,000 bbls. daily, followed by The Texas Company with 22,000 bbls., George F. Getty with 17,000 bbls., Bandine Petroleum with 13,500 bbls. and the Associated with 8,500 bbls.

Midway-Sunset

Several new wells are getting under way out in the Maricopa Flats section of the Midway-Sunset Field and, judging by the present scope of work, completion of about 10 new producers may be expected within the next 30 days. The North American Consolidated has five potential producers nearing completion on the Bronco, Kerchoff, Lincoln and Sunset leases, with several other companies having one or more projects either already in the pay or standing cemented on top of the oil sand.

The Rio Grande Oil Co.'s No. 1 Reservoir Hill Gasoline Co. on the Havenstrite lease in Section 17-11-23, sanded up shortly after coming in a few weeks ago doing 2,125 bbls. daily from 3,351 feet, but it should be back on production again shortly as it will not take long to clean out to bottom. The Standard's No. 1 Graham in Section 7-11-13 has proven a distinct disappointment at 3,050 feet as it does not have any kick and is even incapable of pumping anything more than a small quantity. No. 2 Graham and No. 7 in Section 9-11-23 look better, however, and should result in good production upon completion.

The Wellington Oil Co.'s No. 1 Maricopa in Section 8-11-23 blew in through the drill pipe from 3,387 feet but it was subsequently mudded off in order to land a water string and finish in the usual manner. The Union Oil Co. has spudded in No. 1 Son in Section 8-11-23 and good footage has been made. The General Petroleum finished two new producers in Kern County last week, one at Mount Poso and another in the Kern River Field. In the former area No. 15 Glide was good for 241 bbls. daily from 1,667 feet, while No. 32 Young, out in the west front section of the Kern River Field, was good for 130 bbls. per day on the beam from 1,995 feet. In the Round Mountain Field, the Kern Hills Petroleum Corp. finished No. 1 in Section 6-28-29 doing 750 bbls. daily from 1,576 feet but this project was subsequently shut in because of inadequate storage facilities.

Summerland

The Lincoln Drilling Co. successfully finished its third producing well in the Summerland Field of Santa Barbara County when No. 3 Williams was put on the beam at 1,556 feet, from which depth it made 200 bbls. of 20.1 gravity oil daily. George F. Getty, who has initiated a rather comprehensive drilling program for this field, is driving piles for a new well to be located out in the ocean beyond the tide line and rig construction should get under way soon. In addition to this project, Getty is making hole in No. 2 Fee at 312 feet and in No. 1 Sandoma at 260 feet and is rigging up No. 3 Fee for early spud. The Associated Oil Co. is having a tough time trying to get production in No. 1 S. P., which is being drilled on the Southern Pacific Railroad's right of way, and the outlook is not any too bright for commercial production.

Operators are stepping right along with development work in the Elwood Field of Santa Barbara County and several new projects should be spudded in soon. Additional completions also may be expected soon. The Barnsdall and Rio Grande have gone back into No. 8 Bell Luton after a suspension of several weeks and this well should be tanking oil in the near future as the 10¾-inch water string was landed and cemented at 3,319 feet before the crew was transferred to tideland development.

The Elwood Consolidated Oil Co., a subsidiary of the Honolulu Consolidated, should be in position to make a bid for production with well No. 1 on tideland drilling permit No. 90, as this project is nearing the 3,000-foot level. The Pacific Western's No. 1 on Caroline Spaulding's permit No. 93 should also be on production soon. The Pacific Western is drilling this hole on a cost plus basis for the permittee and consequently does not participate in any production developed.

Potrero

New rigs are rapidly taking form in the townlot section of the Potrero Field of Los Angeles Basin and the seven recent spuds will be augmented by several more in the near future. The Associated has spudded in both of its projects on the Prairie lease, and operators holding adjacent acreage are rushing work in order that they too may participate in any flush production. These relatively shallow wells, averaging around 3,800 feet in depth, can be drilled from spud to completion in about one month and it is likely that several of these recent spuds will be on production before the close of November.

The Continental Oil Co. finished a new well in the Seal Beach Field of Los Angeles Basin when No. 29 Bixby was brought in under a natural flow doing

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Standard, No. 1 Hawthorne, Los Angeles Co.	5- 3-14	7,670	br. sh. drilling
Ohio Oil Co., No. 1 Del Ray, Los Angeles Co.	21- 2-15	5,468	hd. sd. drilling
Marblehead Land Co., No. 1 Santa Monica, Los Angeles Co.	1- 2-19	95	sd. drilling
Dorn Drlg. Co., No. 1 Bellflower, Los Angeles Co.	21- 3-12	mtl.	building rig
Burlingham Pet. Co., No. 1 Compton, Los Angeles Co.	17- 3-13	2,204	cleaning out
Lee & Brainerd, No. 1 Rosecrans, Los Angeles Co.	17- 3-13	Rig	suspended
Big Boy Drlg. Co., No. 1 Compton, Los Angeles Co.	22- 3-13	...	material
Hanners, George, No. 1 Watts, Los Angeles Co.	8- 3-13	1,430	sd. sh. drilling
Cal. Well Drlg. Co., No. 1 Compton, Los Angeles Co.	11- 4-13	8,500	cleaning out
Archer Oil Co., No. 1 Watson, Los Angeles Co.	17- 4-13	2,618	hd. sd. drilling
Russell Oil Co., No. 2 Joughin, Los Angeles Co.	23- 2-17	2,251	fishing
Pomona Oil Co., Well No. 1, Los Angeles Co.	32- 1- 8	1,220	testing
Anchor Oil Co., No. 1 Puente, Los Angeles Co.	19- 2-10	4,820	suspended
Rucker, R. C., No. 1 Puente, Los Angeles Co.	27- 2-10	2,180	cleaning out
The State Co., No. 1 Puente, Los Angeles Co.	5- 2-10	916	sd. drilling
Urmi Oil Co., No. 1 Puente, Los Angeles Co.	31- 2- 8	775	suspended
Monterey Park, No. 1 Jepson, Los Angeles Co.	25- 1-12	5,300	suspended
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	801	gr. sd. drilling
Union Oil Co., No. 1 Richfield, Los Angeles Co.	13- 3- 9	1,477	hd. sd. drilling
Southwestern Drlg. Co., No. 1 Richfield, Los Angeles Co.	21- 3- 9	5,777	recemented
Superior Oil Co., No. 1 Atwood, Los Angeles Co.	4- 4- 9	2,592	sd. sh. drilling
Coastline, No. 1 Devils Canyon, Los Angeles Co.	21- 5-17	1,310	fishing
Queen, J. M., No. 1 Newhall, Los Angeles Co.	22- 3-16	230	suspended
Anderson, P. B., No. 1 Hasley Canyon, Los Angeles Co.	1- 3-16	595	sd. sh. drilling
Shell, No. 1 Bolsa, Orange Co.	18- 5-11	mtl.	building rig
Shell, No. 1 Coyote, Orange Co.	28- 3-10	6,050	sd. sh. drilling
Beard, G. F., No. 1 Brea Canyon, Orange Co.	30- 2- 9	940	br. sh. drilling
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	4,910	plug. back
Western Gulf, No. 5 Newport, Orange Co.	21- 6-10	311	core hole
Western Gulf, No. 3 Newport, Orange Co.	21- 6-10	940	abandoned
Oil Well Eng. Co., No. 1 Newport, Orange Co.	21- 6-10	2,806	recemented
Hall Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	701	cemented
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,403	suspended
Imperial Valley Oil Co., Well No. 1, Imperial Co.	32-11-10	2,930	suspended
Davenport Oil & Gas Co., No. 1 San Marcos, San Diego Co.	30-12- 3	847	suspended
Turner, S. S., No. 1 Escondido, San Diego Co.	25-12- 2	2,099	sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	X-13- 4	1,078	sd. sh. drilling
China American Oil Co., No. 1 Oasis, San Bernardino Co.	17- 4- 4	...	grading

1,200 bbls. daily from 5,487 feet. This project was originally bottomed at 5,580 feet but subsequently plugged back to 5,487 feet. The plug has apparently failed to fulfill its mission, however, as the output is cutting about 30 per cent water. An attempt will be made to effect a satisfactory shut-off but this job will probably be rather difficult as the 8⅝-inch oil string froze at 5,426 feet.

The Standard finished two wells on the San Gabriel lease, one of which, a former upper zone producer, was recompleted flowing 1,050 bbls. daily from 5,409 feet. No. 23 San Gabriel, a new well, showed an initial of 1,100 bbls. per day from 5,412 feet. No completions were registered at Long Beach although J. O. Seeple's No. 6 Maltby came in on a preliminary test doing 250 bbls. of oil and 2,000,000 feet of natural gas from 7,205 feet. The well was mudded off soon after the initial flow and drilling operations resumed.

SOUTHWEST TEXAS

(Continued from Page 50)

ford, total depth 2,910 feet, approximate depth; abandoned.

Sun Oil Co.'s No. 1 Manford, James Hodges Survey, total depth 2,951 feet; abandoned dry.

Brooks County

Houston Oil Co. of Texas' (Shell) No. 1 Holbein-Wormser, Palo Blanco de Maguellas Survey, 330 feet north line, 6,540 feet east line, direct offset to No. 1 Lassiter, is moving on.

Caldwell County

Neumann's No. 1 McConnell, 900 feet southwest of The Texas Company's No. 1 Cude, is location.

Duval County

E. H. Buckner's No. 1 Peters, Survey 162, located 495 feet south line, 495 feet west line, is derrick.

Trapshooter Reilley (Shell) No. 2 Hahl, Survey 250, Block 27, 1,050 feet east line, 150 feet north line, is location.

Nueces County

Agua Dulce Oil & Gas Co.'s No. 2 Saunders, Section 35, Benton Pasture Subdivision, 150 feet south and east lines of section, location.

Webb County

Houston Oil Co.'s No. 20-D Benavides, Survey 753, Block 5, 566 feet north line, 666 feet east lines, is derrick.

John J. O'Hern's No. 2 Valdez, SW NE, Survey 754, located 663 feet north line, 667 feet east line, is rigging up.

Humble Field—Duval

Humble Oil & Refining Co.'s No. 33 Kohler, Survey 164, located 330 feet north and west lines, at 1,792 feet, waiting on tubing; No. 35 Kohler, Survey 165, located 330 feet south and east lines, derrick; No. 36 Kohler, Survey 424, located 330 feet north and east lines, location.

Schoolfield-O'Byrne Field

C. E. Long's (Shell) No. 1 C. W. Hahl, Survey 280, Block 24, located 150 feet north line, 750 feet east line, at 60 feet, standing. Magnolia Petroleum Co.'s No. 8 Hahl, Survey 250, Block 24, located 150 feet south line, 750 feet east line, at 2,338 feet, drilling; No. 1 Lundell, Survey 60, J. Poitevent, located 450 feet north line, 150 feet east line of SE of survey, at 550 feet, drilling; No. 2 Lundell, Survey 60, located 150 feet north and east lines of SE of survey, location. Onyx Petroleum Co.'s No. 5 Krauter, Survey 250, Block 20, located 150 feet south and east lines of block, location. G. M. Partee's No. 6 Moody, Survey 60, located 510 feet north line, 150 feet west line, location. S. & O. Oil Co.'s No. 7 Hahl, Survey 250, located 450 feet south line, 150 feet west line, derrick; No. 9 Hahl, Survey 250, Block 22, located 450 feet north line, 150 feet west line, location; No. 5 Bowe, Survey 250, Block 21, located 40 feet south line, 150 feet west line, at 2,310 feet, drilling.

Randado Field—Jim Hogg

Randado Oil Corp.'s No. 35 Palacious, Survey 291, Block 2, located 150 feet south line, 450 feet east line, at 100 feet, standing. Magnolia Petroleum Co.'s No. 1 N. Hinnant, Block 1, Survey 20, located 600 feet north and west lines, rigged up; No. 1 Weil, Survey 5, Block 2, located 660 feet north line, 349 feet east line, location.

Henne-Winch-Fariss Field

George S. Marshall's No. 4 Holbein, Survey 11, Block 10, Share 3, located 150 feet south and west lines, derrick; No. 5 Holbein, Share 3, Block 10, Survey 15, located 150 feet north and west lines, rigging up. A. W. Major's No. 1 Holbein, Block 6, Share 3, Las Animas grant, at 2,000 feet, drilling. O. W. Killam's No. 1 J. G. Martinez, Survey 2, located 550 feet west line, 150 feet south line of SE of survey, derrick.

Schott Field—Webb

Livingston & Payne's No. 1 Guerra-Ochoa, Survey 58, located 917 feet east line, 470 feet south line, at 1,649 feet, tested oil, cleaning out hole preparing to set casing.

Mid-Ojuelos Field

Crown Petroleum Co.'s No. 2 E. Garcia, Survey 463, Block 2, located 330 feet north line, 660 feet east line, at 1,200 feet, drilling.

Carolina-Texas Field

Carolina-Texas Oil & Gas Co.'s No. 8 Benavides, Survey 683, Block 12, located 450 feet west line, 150 feet south line, resumed drilling. W. R. Shankle's No. 2 Webster, Survey 684, located 1,170 feet west line, 150 feet south line, rigging up.

Magnolia-Cole Field

Cole Petroleum Co.'s No. 67 Benavides, Survey 412, Block 12, located 313 feet east line, 160 feet north line, at 38 feet, standing. Magnolia Petroleum Co.'s No. 1 J. G. Valdez, Survey 754, Block 12, located 150 feet south and west lines, derrick; No. 2 J. C. Valdez, Survey 754, located 330 feet north line, 660 feet east line, Block 2, location; No. 1 A. Benavides, N half Survey 660, located 660 feet south and east lines, at 1,370 feet, drilling; No. 1 S. Perez, J. Poitevent Survey No. 460, located 1,980 feet north line, 660 feet west line, location; No. 2 King-Harper, Survey 323, Block 2, located 660 feet north and east lines, location.

Cole Gas Field

Co-Operative Drilling Co.'s No. 3 Dinn, NE NW, Survey 454, located 60 feet west line, 450 feet south line, location. Houston Oil Co.'s No. 2-G R. Benavides, Survey 701, located 666.2 feet south line, 666.3 feet east line, location. John J. O'Hern's No. 3 Benavides, Survey 694, Block 5, located 450 feet south line, 150 feet west line, moving on. O. W. Killam's No. 13 Bruni, Survey 3, Adams Subdivision, Mariano Arispe grant, located 491 feet southwest lines, 200 feet southeast lines, Block 1, at 1,371 feet, drilling; No. 14 Bruni, Survey 5, Adams Subdivision, Mariano Arispe grant, located 150 feet northwest and southwest lines, Block 11, derrick. Magnolia Petroleum Co.'s No. 1 D. Benavides, Survey 694, located 660 feet south and east lines, location.

Charco-Redondo Field—Zapata

Loyal Oil Co.'s No. 17 J. G. Martinez, C. Redondo Survey, 600 feet northeast of No. 10, location; No. 18 J. G. Martinez, C. Redondo Survey, 300 feet northwest of No. 17, location; No 19 J. G. Martinez, C. Redondo Survey, 300 feet north of No. 15, location.

Jennings Field

Blair & Acklin's No. 2 Trevino, Survey 66, Block 1, located 150 feet west line, 190 feet north line, at 450 feet, drilling. Blankenship and others' No. 1 Trevino, Survey 413, located 2,480 feet south and east lines, location. V. F. Blankenship's No. 1 Garza, Survey 64, Block 7, 150 feet north and east lines, at 50 feet, drilling. Evans and others' No. 1 Trevino, Survey 62, located 1,490 feet north line, 1,490 feet west line, at 1,300 feet, coring. Killam-Duggan's No. 7 Cuellar, Survey 277, located 2,840 feet east line, 1,650 feet south line, spudded in. O. W. Killam's No. 2 Flores, Survey 250 and south of Survey 110, located 1,565 feet east line, 150 feet north line, derrick; No. 17 Cuellar, 160-acre Cuellar tract out of 1,772-acre Cerrito Blanco grant, location. South Texas Production Co.'s No. 1 Roy Jennings, Mira Flores grant, 18,055 feet southwest lines, 11,040 feet southeast lines, at 3,280 feet, drilling; No. 6 Joe Jennings, Cerrito Blanco grant, 2,640 feet southeast lines, 660 feet northeast lines, location.

Mirando Valley Field

O. W. Killam's No. 1 Flores, Survey 240, located 850 feet southeast lines, 560 feet northeast line, at 1,260 feet, drilling.

Joe Bruner Field—Caldwell

T. C. Hadley's No. 1 J. M. Hanson, James Hinds Survey, 150 feet south and east lines of W half of east 20 acres of J. M. Hanson farm, at 2,640 feet, shut down. Humble Oil & Refining Co.'s No. 5-A M. Brisco, James Hinds Survey, 206 feet north line, 485 feet west line, at 2,477 feet, drilling in lime. Humble Oil & Refining Co. and Luling Oil & Gas Co.'s No. 9 C. F. Dye, 300 feet east of No. 2, rigging up; No. 9-C Floy Gray, rigging up; No. 7-A Johnson, derrick. Magnolia Petroleum Co.'s No. 2 Merriwether, at 2,600 feet, drilling.

Darst Creek Field—Guadalupe

Gulf Production Co.'s No. 1 C. Anderson, Jacob C. Darst Survey, 150 feet south and east lines, location; No. 1 Tadlock, Jacob C. Darst Survey, 150 feet northwest corner, location. Magnolia Petroleum Co.'s No. 1 R. C. Appling, James Hodges Survey, 150 feet west and south lines, at 2,428 feet, drilling in Taylor marl. The Texas Company's No. 2 Dallas Wilson, Jacob C. Darst Survey, 150 feet south and west lines, derrick; No. 2 Lemmie Anderson, 150 feet out of northeast corner, at 685 feet, shut down; No. 3 Lemmie Anderson, 150 feet north and west lines, location; No. 4 Lemmie Anderson, derrick.

Kingsville Field—Kleberg

Humble Oil & Refining Co.'s No. 8 R. J. Kleberg, K.T.&I. Survey, Section 40, Lot 7, located 150 feet south and east lines of lot, location.

Cartwright Field—Live Oak

Houston Oil Co.'s No. 2 J. B. Dunning, M. B. Kilvin Survey, 1,445 feet north of No. 1 has spudded in.

Rockdale Field—Milam

Texas Petroleum Development Co.'s No. 1 Milton Phillips 18 acres J. J Chambers Survey, in center of Rockdale Pool, 600 feet north of No. 14, Edwards lime test, rigging up.

Agua Dulce Field—Nueces

Agua Dulce Oil & Gas Co.'s No. 2 O. Wolters, Section 34 Benton Pasture Subdivision, 1,470 feet north line, 2,750 feet west line of Section 1,978 feet, set casing; No. 2 Bessie Kerr, Section 36 Benton Pasture Subdivision, 300 feet south, 1,200 feet west of No. 1 Kerr, is rigging up. R. & G. Corp.'s No. 1 E. Allen, R. Peter Survey No. 6, Block 8, located 200 feet north and west line of block, location.

White Point Field—San Patricio

LaFeria Oil & Gas Co.'s No. 1 C. C. Smith, J. C. White Survey, 690 feet north line, 350 feet east line, rigging up. Spencer & Rhodes' No. 2 Texas Company fee, Lot 6 Roos Subdivision, 150 feet south and west lines of W 50 acres, standing with derrick partly built; No. 2 H. L. Steele, Lot 6 Roos Subdivision, 200 feet south and west lines, location.

Nursery Field—Victoria

Humble Oil & Refining Co.'s No. 3-A J. J. Welder, D.L.&C. Survey, 1,634 feet southeast line, 736 feet southwest line, at 5,100 feet approximate depth, set 6⅝-inch casing.

LOUISIANA-ARKANSAS

(Continued from Page 46)

No. 1 Dickson, Section 10-19-14. Lide and others' No. 1 Hunter, Section 22-19-14, southeast of production, which looked like a producer a week or 10 days ago, has been standing 600 feet in oil from 5 feet of sand, total depth 2,468 feet, waiting for standard rig, and now is cleaning out to reset tubing. At this depth it will be the deepest producer in the district. Haynes Brothers' No. 2 Oden, SW NE Section 20-19-14, on the south edge of production, looks like a failure. It is shut down at 2,505 feet after coring a salt water sand at 2,471 feet and probably will be abandoned.

Magnolia Petroleum Co.'s No. 4 Levee Board in Section 7-20-15 Oil City district of Caddo went on the beam pumping 25 bbls. from 2,213 feet. No. 18 Dillon, Section 24-21-15, dry and abandoned at 4,866 feet, is arranging to plug back and perforate casing at 1,750 feet for shallow production and No. 19 Doan-Thigpen in Section 6-20-15, is a derrick.

Cotton Valley

The company's deep test in Cotton Valley, No. 1 McCook & Hibbler, Section 22-21-10, after testing sand at 6,888 feet without results, cored 9 feet of sand showing oil from 6,949-58 feet and is arranging for a drill stem test. This is the deepest hole and the deepest test so far made in North Louisiana-South Arkansas territory. A test at 4,722 feet developed around a half million feet of gas. Pat Hudson's No. 1 Slack in Section 1-22-11, Sarepta district, pumped 30 bbls. initial from 2,747 feet.

Nell & Lanier's No. 1 Biedenharn in Section 23-21-14, Bossier Parish, a few miles east of the center of Pine Island production in Caddo Parish, which has been shut down most of the time since it started last January, got under way again last week and at 1,010 feet ran into 500,000 feet of gas with a slight spray of oil from 1 foot of sand. Another Bossier well, although flowing 2,500 bbls. of salt water, was a success since that was what Jones Chemical Co. was after in drilling No. 3 Fee, Section 32-16-11, Elm Grove district. Total depth is 3,095 feet. The company is conducting experiments with Elm Grove brines to discover their commercial potentialities, but what results they have attained is not being broadcast.

Fair and others abandoned No. 1 Hamilton in Section 1-12-13 De Soto Parish as a salt water hole at 2,855 feet. For a time this well attracted a great deal of attention because it topped the Trinity approximately 1,200 feet higher than it was found in any other wells in that part of the country, several of the formations overlying it elsewhere being absent in this locality. It made an estimated 1,000,000 feet of gas at 2,770-79 feet and blew out with an estimated 3,000,000 feet and bridged at 2,790 feet but when the bridge was knocked out it went dead, presumably because the casing seat gave way. Casing was reset but the only result was salt water.

The 6,000-acre block in Township 11-13 in the old Spider district of DeSoto Parish assembled by H. B. Langford and others, has been taken over by Benedum & Trees Oil Co., who will drill the 3,200-foot test to which Langford and his associates were committeed. Consideration involved in the transaction was not made known, but it is stated that the 3,200-foot test Langford was to drill may be taken down to 5,000 feet.

R. L. Gay, trustee for W. E. Cooke of Patterson, N. J., completed the third well in his Zwolle Pool in Sabine Parish pumping 75 bbls. of 44 gravity oil and 30 bbls. salt water, but as the second producer, of which this is an offset, also made some salt water at the start which disappeared a few weeks after it started pumping, the brine in this new producer is expected to disappear also. The latest producer, No. 4 Bowman-Hicks, in the NW SE Section 14-7-14, is a west offset to the discovery well and is producing from 2,350 feet. It made several heads, some as much as 75 bbls., through 8¼-inch casing while waiting for standard rig but did not have quite enough gas to make it flow, but again, as the discovery well developed more gas as it pumped, this one may do likewise and is expected to increase its production as its two predecessors have increased theirs since completion. The discovery well has more than doubled its initial production in the 11 months it has been producing and the second has doubled its initial production five times. Several miles north of these wells A. H. Tarver's No. 1 Long-Bell in Section 29-8-13, was dry and abandoned at 1,921 feet.

Pleasant Hill District

In the Pleasant Hill district of Sabine Parish to which attention was directed some time ago by the completion of Bridges-Clark Oil Co.'s No. 1 Williams, Section 33-10-12, which came in flowing 135 bbls. an hour for the first few hours, settling to 53 bbls. an hour, Arkansas Fuel Oil Co. completed No. 2 Horne, an offset, pumping 125 bbls., from 3,217

(Continued on Page 131)

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Price Cut Affects Market in East

Reduction in Tank Wagon Figure Announced by Standard of New Jersey Exerts Weakening Influence in Tank Car Structure Too

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Oct. 14.—The East Coast refined products markets were featured the last week by the tank wagon price reduction for gasoline announced by the Standard Oil Co. of New Jersey, this cut being the culmination of a general weakness spread over the last three weeks. The new tank wagon price is effective throughout New Jersey and at refinery and terminal points in the South only, the price of 16 cents remaining unchanged at other points in the territory of the Standard of New Jersey. The tank car situation remains unchanged officially, but of course its statistical position is not strengthened by the tank wagon reduction.

Consumption continues at high levels, but competition offsets any benefit this might bring to the old established companies. The weather is ideal for motoring, with the rainy spell apparently come to an end and real fall weather, crisp and clear, prevailing.

Lubricating oils and paraffin waxes have been fairly active this last week. A marked increase in the movement of fuel and gas oils expected at this time of the year, has led to reports of impending price advances for these products. At this moment, however, no such action has been taken officially. Kerosene is more active, but the tank car situation has not yet strengthened to the point where the trade feels justified in returning to the 8 cents per gallon level.

Tank Car Gasoline

With jobbers continuing their buying operations on a hand-to-mouth basis, eastern refineries are kept busy moving gasoline. But buying demand of this nature is not effective in giving the tank car market a solid basis of strength, and as a result the principal sellers continue the price of 8¾ cents per gallon at refineries, tank car. The general price structure in the tank car market was not helped by the tank wagon reduction announced by the Standard of New Jersey.

Price cutting is still a factor in the tank car division, but not to the extent it reached during the last month. Factors in the trade who have been offering gasoline at 8½ cents per gallon, tank car, and in a few cases even under this figure, are cutting down on the quantity available at the low levels.

Added to other worries of marketers there is now the general strike of all gasoline company drivers throughout the metropolitan area, with the exception of those for one company which already pays approximately the wage scale demanded by the strikers. The situation became acute when, despite the retaining of a greater number of drivers than ordinarily employed and with police protection added, companies were able to make only from 50 to 60 per cent of their normal deliveries.

Tank Wagon Gasoline

The reduction announced by the Standard Oil Co. of New Jersey, effective on Thursday, October 10, brings prices in New Jersey more near a parity with those obtaining in Greater New York and adjacent territory. But it also indicates that the competition from California gasoline has not abated. An important factor in this connection is the reported statement by a large service station chain official to the effect that he was forced to patronize the California gasoline representative because customers of his chain actually expressed preference for the California product.

The cut, which obtains only in New Jersey and at specified refinery and terminal points in the South, was of 1 cent a gallon. This makes the new tank wagon price in the territories affected 15 cents a gallon with a 2 per cent discount to dealers, and the new service station price 17 cents per gallon, exclusive of all state taxes. The points outside of New Jersey affected by this cut include Baltimore, Washington, Richmond, Norfolk, Wilmington, Charleston, S. C., Charleston, W. Va., and Parkersburg, W. Va. At all other points in the territory of the Standard of New Jersey the price of 16 cents per gallon for tank wagon and 17 cents per gallon, filling stations, remains unchanged.

This cut has been met by the announcement of a similar reduction of 1 cent a gallon, tank wagon, in New Jersey and Delaware by the Atlantic Refining Co.

Kerosene

A marked increase in kerosene demand this last week brightened the outlook for the marketers who recently compromised on a 7¾-cent per gallon price in tank car lots, but failed to offer enough encouragement to send the price back to its former 8 cents per gallon level. However, it is felt here that a continuation of the present improvement will bring about an upward revision of one-fourth of a cent per gallon, tank car. Tank car movement reached fairly high levels this last week, and the colder sections of this territory have come into the market with orders for forward replacement stocks.

Tank Wagon Kerosene

No price change has occurred in the tank wagon division of the kerosene market, but constant buying improvement is reported. The tank wagon delivery departments of the marketers have had to revise their schedules to care for the brisker tank wagon movement.

The northern part of New York and eastern sections through New England, where the cold weather strikes more intensely than in the metropolitan area, have started the usual fall consumption. Throughout that territory kerosene heaters are more in use than in New York City and vicinity. However, the increase in demand is being met at this time with an increase in production, one offsetting the other and continuing the general market tone unchanged.

Paraffin Wax

More firmness marked the paraffin wax market during the last week, with scale advancing one-fourth cent. A sale was put through on scale at 3½ cents. Fully refined is firm, but with no change in prices reported. Inquiries are increasing steadily, and indications are that several of the most important ones will culminate in definite orders within a week. The export demand shows marked improvement also, with several large inquiries for late October shipments.

Diesel Oil

Steadiness continues in this branch of the market, with $2 per barrel, in bulk at refinery, still the prevailing level. The consumption by domestic industrial factors is becoming more of an important outlet for Diesel oil, although, of course, marine business still constitutes the greater part of sales in the East.

Whatever weakness may exist in the West Coast Diesel oil market is not having any appreciable effect on the eastern market, local refiners report.

Lubs

Only a moderate business was accomplished during the last week in cylinder stocks, although fair inquiries were reported by the jobbing trade. The feature of the market continues to be the awakened interest in export buying.

There has been no weakness in prices, and refiners indicate that they will hold firmly to the present levels with bright stocks considered especially steady. In the jobbing market some real business has been forthcoming, due to the fact that this branch of the trade has devoted its buying activity to hand-to-mouth operations. It is reported on good authority, also, that domestic blenders and compounders soon will be forced into the market, as the stocks they have are below those normally maintained.

From this viewpoint, it is to be expected that buying on a much broader scale will be resumed in the near future. In red and pale oils, the situation continues practically unchanged. Industrial demand is on a fairly active basis and prices are firm and unchanged on all grades. There has been some change in the export market, where a more active interest is being displayed in red and pale oils.

Bunker Oil

A substantial improvement has succeeded the firm undertone which has marked the bunker oil market here during the last fortnight. There is a large volume of business being consummated at the well-established price of $1.05 per barrel in bulk at the refinery terminals. It is a significant fact that heavier withdrawals are being made against contracts by marine interests.

An encouraging factor in this connection is the change in the trend of crude oil production. With the figures now showing a downward movement, instead of continually toward record highs, the sentiment has changed somewhat among the shipping interests. The general situation is one which presents a bright outlook to refiners and talk again is heard of a prospective mark-up in the eastern market.

As is the case with Diesel oil, California cannot offer much competition to the eastern refiners in the scramble for bunker oil business. Although cargo lots may be obtained at the coast from 40 to 50 cents under the bulk price here, the cost of transportation would be prohibitive as against the $1.05 price level existing here.

It is the domestic demand for fuel oil which is helping greatly in strengthening the market tone. It is no secret that refiners are trying to develop this profitable line of business, in addition to the marine division of consumers of fuel oils. Some refiners here report that they have booked a fairly good volume of contract business destined for industrial heating purposes.

Gas Oil

There has been no change in the price structure in gas oil during the last week, although business has shown a brisk sharpening of interest on the part of buyers. This growing demand is in excess of the ordinary seasonal upturn, refiners say, and the outlook for the new season is considered promising. The lower grades are moving in good volume for consumption as furnace oil. In this connection it is important to note that there has been a marked increase in the installation of domestic oil burners, supplanting coal furnaces, throughout the eastern territory. This is certain to show a marked influence on the entire fuel oil situation here.

Petrolatum

The market continues steady and unchanged, in so far as prices are concerned, but with a slight improvement in demand, especially for the white grades. In the amber grades there is no change in prices, but a slight falling off in demand. The export trade has not yet developed to the anticipated point, but there is evidence, from the numerous inquiries being made in the market at present, that considerable business will be consummated shortly. In dark green, the weakness of the last few weeks has disappeared.

Export Markets

An inquiry for an 8,000-ton shipment of gasoline was received this last week from French interests, but due to the steamer situation it is declared probable that the order will not go over until December, when a satisfactory steamer has been found available. As prices are not yet quoted for December shipment, the entire transaction will mark time for the present. This one inquiry was the only evidence of activity in export gasoline or kerosene this week. The general quiet of the last six or seven weeks continues here, with California occupying the limelight. British buyers have been diverted from the Gulf market to the West Coast, and it is understood that business is being placed there by British interests.

In the last few weeks the only movement in kerosene has been in small lots out of the Gulf, while in the East Coast market there have been inquiries for both bulk stock and cased kerosene for foreign use.

A substantial volume of cylinder stocks has been purchased for use abroad, especially in England. But the question of price still proves a stumbling block in the consummation of several contracts which are pending. Sellers say buyers are holding their bids at levels too low for consideration.

Paraffin wax has held a good place in export sales this week, with the price situation showing improvement on both the crude scale and the fully refined.

Petroleum Exports

The following table shows principal exports of refined petroleum products from New York during the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Oct. 4	Sept. 28	Sept. 21
Gasoline	162,000	1,010,200	623,700
Naphtha	661,000	4,698,800	81,300
Kerosene	22,000	226,300	221,100
Fuel oil	15,000	33,400	19,000
Lubricating oil	1,448,000	1,853,900	1,101,500
Petroleum, ref.	2,148,000	1,861,900	296,900
	Pounds		
Petrolatum	43,000	27,000	.....
Paraffin wax	2,798,000	2,606,500	1,562,800
Refined	296,000	.....	.....
Scale	294,000	332,300	1,156,300
Lub grease	1,791,000	1,145,900	1,616,400

Imports

Imports of crude and refined oils at the principal United States ports for the week ended October 5 totaled 2,529,000 bbls., a daily average of 361,285 bbls., compared with 2,067,000 bbls., a daily average of 295,286 bbls. for the week ended September 28, and a daily average of 302,300 bbls. for the entire month of September. Details follow:

(Barrels of 42 gallons)

At Atlantic Coast ports—	
Baltimore	490,000
New York	959,000
Philadelphia	362,000
Others	455,000
Total	2,266,000
Daily average	323,714
At Gulf Coast ports—	
Galveston district	68,000
New Orleans and Baton Rouge	139,000
Tampa	56,000
Total	263,000
Daily average	37,571
At all United States ports—	
Total	2,529,000
Daily average	361,285
Daily average month of September	302,300

California Oil Receipts

Receipts of California crude and re-

(Continued on Page 135)

Little Change in the Chicago Market

Weather Good for Gasoline Consumption but Poor for Furnace Oils. Spot Buying for Present Needs Only

By John B. Waldo

CHICAGO, Oct. 14.—There was very little change in this market from the beginning or close of last week except a great improvement in the weather. It is now bright and warm, very good for gasoline but not so good for furnace oils. The demand for gasoline in the spot market was fair today, but not at all comparable with the movement on contract. The latter is almost with no exception very good. Spot buying is for present needs only and the orders were generally for small quantities. The price of U. S. Motor gasoline was held at 7¾ cents by major refiners and their spot business was light. Other sources of supply were quoting 7 cents or an eighth less and to close buyers some quoted 6¾ cents. Loss of sales at that price were mentioned by several sales organizations, jobbers stating they could buy for 7⅝ c nts from Group 3 refiners. This price was quoted by brokers from Tulsa. The origin of the material was not stated but it was claimed to pass doctor and corrosion tests. The demand for the higher gravities was light, recent buying for export having little or no effect in this market.

Furnace Oils Slow

Kerosene continued to move slowly today at no change in price. Distillates and all furnace oils were not bought with any freedom and the distillates were much more freely offered. Quotations on first-class material were holding, but some lots which were a little off grade in some particular were being pushed for sale at slight concessions in price. Gas oils were offered for sale in larger volume but the prices were firm. There were some evidences of accumulations of furnace oils due to the mild weather and the prediction of fair and warmer over the week indicated reduced demand. Inquiries for industrial fuel oils were not numerous and the business was quiet on Monday. Local distributors of fuel and furnace oils have notified their customers of an advance of one-half cent in price to become effective on October 19. No change was made by leading distributors in the price of distillates, but some of the smaller concerns state they will advance that price with the gas and fuel oils.

Gasoline Market Quiet

The local market was decidedly quiet all of last week. The gasoline orders were largely against contracts. Jobbers for the most part are taking their quotas under their contracts although in many instances prompting is necessary to get shipping instructions. The jobbers are purchasing only enough gasoline to provide for immediate needs and maintaining small stocks.

Improved transportation facilities enable country jobbers to operate with smaller stocks by ordering more frequently and another factor in this territory is the numerous sources of supply available at least in the states east of the Mississippi River from which cars can be ordered and received in many cases within 36 hours. These factors enable the jobber to throw more of the burden of carrying the stocks on the refiner. They also oblige the refiner to be prepared to ship promptly to meet the needs of his trade. It is not so much a matter of possible declines or even advances in the prices of gasoline with the jobber as the gradual dwindling of the consumption. Many distributors state that their present gallonage is ahead of last year and the larger the company the more emphatically is this assertion made.

Consumption during the last week was reduced in part of the Indiana territory by rains and chilly weather which has had its share in making the oil jobber order in small quantities. The spot business was marked by a good deal of shopping around for the best possible prices. The major refiners held to their price of 7¾ cents for U. S. Motor, Group 3 basis, although some of them are beginning to say that they should make some reductions just to be more in line with the going market. It makes the sales manager feel silly to quote a customer 7¾ cents and be told that the buyer can get all the gasoline he wants from responsible refiners in Oklahoma at, at least, three-quarters of a cent less.

Prices Uneven

Prices, aside from the quotation made by the limited number of refiners who are commonly termed the majors, were uneven, but all of the quotations by other refiners or brokers were materially less than 7¾ cents. Two leading Oklahoma refiners were quoting freely at 7⅝ cents and one large refiner at 7¼ cents. Toward the last of the week, leading jobbers stated that they had been quoted 6¾ cents directly by refiners in Oklahoma.

The local marketers for the most part were selling at 7 cents, but occasionally they sold for less and the amount of business done at the lower price apparently was increasing. The volume of spot business was not large as compared with the total consumption, but there is enough even now to make it decidedly worth while if not put up among too many sellers.

One of the arguments made by the larger refiners is that even if they were willing to reduce their price three-quarters of a cent, the additional business which would come to each if all of them made the same reduction would be too small to be worth while, especially as such a cut would result in lowering the contract price to their contract customers and might be followed by a reduction in the tank wagon price over this territory which would cut into the profits from their owned stations.

One way of meeting the problem is to own enough outlets to distribute at least the average refinery output. This is practically the condition of the Standard Oil Co. in this territory and some of the other integrated companies are approaching this position. It has been stated regarding the new Empire refinery in this district that it will not be a disturbing element in the gasoline situation as it will have assured outlets for its gasoline output through its own stations. The organization has bought most of these stations. It has been obtaining its gasoline from other sources and these other refiners must look for other customers.

Make a Big Difference

Those little plants around Muskegon, Mich., although the first one began operating in August and the others only recently began to turn out products, are making a lot of difference in their state. It is largely a case of differential freights. Their crude costs them the Mid-Continent price plus a small gathering charge and the plants are making a full line of products. They are naming prices that are much below the cost of the same material out of Oklahoma delivery, charges included. Distillate is being sold at prices that would net the refinery in Group 3 less than 3 cents and gasoline at rates that would net the group not over 6 cents, which are really good prices for the Michigan refineries.

The refineries around the western end of Lake Erie at Detroit and Toledo and even Cleveland have been enlarged or rebuilt and with added outputs they too have been pushing out for outlets to the west and south. The general result is that there is a decidedly unsettled condition prevailing in the eastern part of the territory. In Ohio the Standard Oil Co. of Ohio has been obliged to make additional local reductions to meet competition and seems unable to establish settled conditions.

There has been talk lately regarding the future of the gasoline business and the statement is made that in the future there will be two kinds of stations, those that maintain prices and sell on quality plus service and the others that rely on low prices to bring them trade. One of the greatest troubles in the oil station business is to get the motorists to differentiate between the various products. The large companies in this territoy are spending large sums in display advertising to convince motorists that their gasoline is really the best. Once convinced that uniformly good results can be obtained through the use of some brand of gasoline, motorists are loath to change. It is not inertia, as is sometimes asserted, but the result of previous unpleasant experiences with some makes of gasoline.

Kerosene Market Disappointing

The kerosene market here was disappointing last week both as to prices and the volume of business. Some of the refiners who a short time back did not have any kerosene at all now have much more than they are able to sell readily. A 10-car order seems to have broken the local market. There were several refiners who bid 5¼ cents and one that bid 5 cents, but an Ohio plant wanted that business and as it was in differential territory a price was made of 4¾ cents. The major refiners are still quoting 5¼ cents and others are offering at as low as 4¾ cents. The demand is light and sellers with material to move see little future to the demand.

The high price of distillate is stated to have made it possible for some distributors to blend gas oil with kerosene to produce a burner fuel that will give service with those burners which require a distillate. Refiners were holding their distillates at 4 cents while other refiners were offering kerosene at 4½ cents for release.

The furnace oil movement has been checked for the time being simply through through the usual action of consumers. They have taken in their first fills and are out of the market for the time being until they need some more fuel. There is such a period at this season of the year annually and the real question is how soon the majority of the consumers will require a refill. Local dealers report that their consumer customers have full or nearly full tanks and are using but little oil.

More Active Movement Soon

The more active movement should begin within 30 days. Until then there may be a quiet market. Distributors in the larger centers of population where the bulk of the furnace oil is consumed report a material increase in the number of customers. Many of the smaller dealers are not well supplied for business at the beginning of the cooler season and there was a real rush for material, but now they are in better shape. The higher prices talked of by refiners induced many of the distributors to place orders for a part of their needs early in the season and as these shipments have been coming in rather rapidly of late many have more distillate and gas oil than they can take in until the demand picks up.

There seems to have been more of this advance buying than was expected and while reports are of slow shipments, the distributors have plenty of material now. In this city some of them have been sellers of tank car lots, making a price of 3¾ cents for cars on track which they could not take in. There were only a few such cases, but some oil was supplied for out-of-town shipment and paid the seller a substantial profit.

Refiners are holding for 4 cents for the 38-40 distillate. Some admit that they have stocks which they would like to move but they want to receive the full price. In one case a tank full of high grade distillate was offered at 4 cents but the refiner stated that if the marketer with whom he was dickering would agree to take the entire quantity he would make the price an eighth of a cent less and store the material free of charge. It is not impossible that some special sales may be made on the quiet but new business is being refused by nearly every refiner at less than 4 cents to the trade for 38-40 distillate. Some are offering a 37-39 distillate at 3¾ cents to the trade.

Some West Texas material is also offered, the prices slightly lower than the 4-cent quotation, one refiner having a distillate which he is offering at 3⅞ cents. The odor is a trifle off, not really bad, but if the car lot shipments should be a little less desirable they would almost certainly be refused. There have been a great many rejections of material and in most cases the reason given was bad odor. In a few cases slow shipments were given as the cause.

Demand for Straightrun Gas Oil Dull

The demand for straightrun gas oil is not active. The gas companies are buying for their needs, but so many have contracts or have bought ahead that the number in the market at present is less than usual. The price is almost pegged at 3 cents for full 32-36 U.G.I. gas oil. Some sales have been made at slightly over and some at a little less than that price but it is really the market now.

Some of the gas companies are accepting gas oil with specifications which would not have passed a short time back and at the same time other buyers for gas companies insist on specifications that are not even required by the formula of the American Gas Association. The percentage of sulphur is one of these because they are buying on obsolete specifications. Gas company chemists have stated that some of the oils high in sulphur really leave less sulphur in the gas than others which are much lower in sulphur.

The zero gas oils are firmly held by refiners and the trade is being asked 3 cents to 3⅜ cents for desirable oil, the straw color being hard to buy in a zero oil.

There have been few real offerings, buyers for the most part seeking sellers. The immediate demand for zero oil is not large for just about the same reasons as in distillate. The real activity is in forwardings on contracts or earlier purchases. There has been a little more willingness to quote on gas oil by refiners and occasionally some small lots have been put out for sale, but the supply is tightly held. The jobbers are supplied for the present, but it would be easy to sell zero gas oil at slight concessions from the quoted prices. The present situation will hold until either the refiners are tired of waiting or the demand from consumers forces jobbers to replenish their stocks at the best price they can get.

Industrial Fuel Oils Firm

Industrial fuel oils are firmly held, but the inquiries are few and none for important amounts. Many of the large users of heavy fuels bought freely when the market was easy along in the summer and now are receiving all the oil they need. Some of them have a surplus

(Continued on Page 135)

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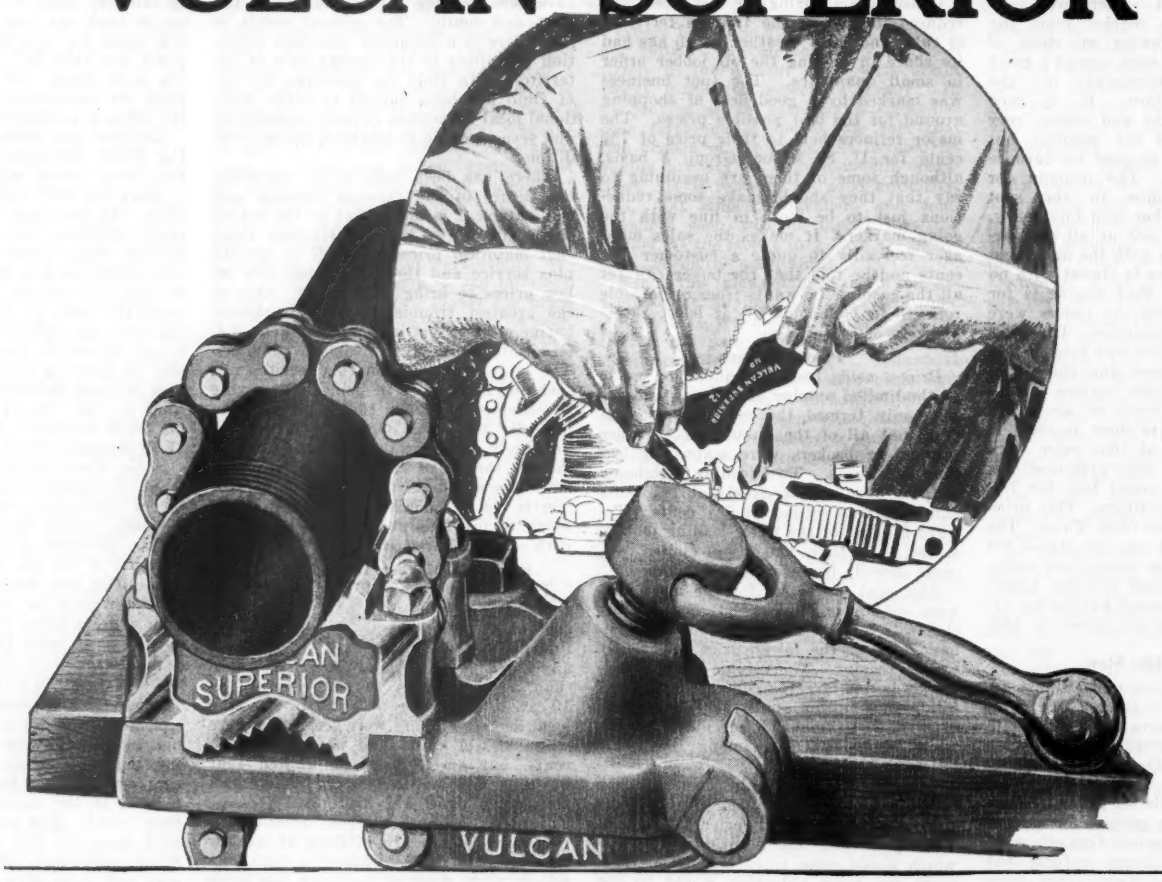

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Practical Suggestions in Refining

By W. T. Ziegenhain

Strength of Brick No Indication of Strength of Wall

Hollow brick walls are more economical than solid brick walls, according to tests recently conducted by the United States Bureau of Standards. This conclusion along with many others of practical value to the refinery construction engineer was drawn after compression tests were made on 168 walls built under all manner of normal conditions. Each of these walls were 6 feet long and approximately 9 feet high. Four different kinds of brick were used in the tests. Three mortar mixtures, two grades of workmanship, various curing conditions, and ten types of masonry, three solid and seven hollow, were used. The conclusions drawn are as follows:

1. With brick, the cross sections of which closely approximated rectangles, the strengths of the hollow walls varied about as the net areas in compression. When the bricks were warped, the strength of the hollow walls was found to be less than that expected from the net area.

2. Construction data show that there is a saving in materials and in time for hollow walls of brick as compared with solid walls.

3. The condition of the horizontal mortar beds in the walls affected the wall strength. Walls in which the beds were smooth were stronger by from 24 to 109 per cent than walls in which the mortar beds were furrowed.

4. Walls laid in cement mortar and kept damp for seven days after construction were not stronger at the age of 60 days than similar walls cured in the laboratory under ordinary conditions.

5. The average strengths of solid walls built of end-cut Chicago brick (average compressive strength of half bricks flatwise, 3,280 lbs./in.²) were as follows: Lime mortar walls, 287 lbs./in.²; cement-lime mortar walls, 587 lbs./in.²; cement mortar walls, 661 lbs./in.² A contract for building tests walls was let, on a lump-sum basis, to a brick mason who specialized in small contracts. The work was done without supervision and was characterized by absence of mortar in the longitudinal vertical joints and deep furrowing of the horizontal beds.

6. With carefully supervised workmanship, the aveage stengths of solid walls which were built by another mason hired by the day without regard to output and which had completely filled vertical joints and smooth spread horizontal mortar beds were as follows:

Chicago brick: Compressive strength of half brick flatwise, 3,280 lbs./in.² Average compressive strength of solid walls—cement-lime mortar, not determined; cement mortar, 895 lbs./in.²

Detroit brick: Compressive strength of half brick flatwise, 3,540 lbs./in.² Average compressive strength of solid walls—cement-lime mortar, 945 lbs./in.²; cement mortar, 1,145 lbs./in.²

Mississippi brick: Compressive strength of half brick flatwise, 3,410 lbs./in.² Average compressive strength of solid walls—cement-lime mortar, 1,300 lbs./in.²; cement mortar, 1,550 lbs./in.²

New England brick: Compressive strength of half brick flatwise, 8,600 lbs./in.² Average compressive strength of solid walls—cement-lime mortar, 1,875 lbs./in.²; cement mortar, 2,855 lbs./in.²

7. The strengths of the solid walls were more closely related to the shearing strength of the bricks than to any other strength properly measured. The compressive strength of the half bricks flatwise appeared to be the next best measure, and was better than the compressive strength on edge, the modulus of rupture, or the tensile strength of the bricks.

8. On the average the compressive strength of the wallettes made in 18 inch by 3 foot sections as samples of the wall under test, was by far a more consistent measure of the strength of the walls than any of the brick strength values. In predicting wall strengths from brick strengths, effects of mortar and workmanship must be taken into account, while from wallette strengths, only a single value need be determined. These tests show that the average strength of the walls was from about 60 to 90 per cent of the average wallette strength.

ARTIFICIAL RESPIRATION ONLY MEANS OF REVIVING GAS VICTIM

The effects from breathing hydrogen sulphide gas and the methods to employ in reviving one who is overcome with it, was one of the most interesting and practical exhibits at the petroleum exposition. Refinery operators have been generally warned of the dangers of hydrogen sulphide poisoning but K. L. Marshall of the United States Bureau of Mines gave an actual demonstration of these using a white rat.

Mr. Marshall called attention to the fact that the problem of handling a worker who has been overcome, is a rather simple one if the correct steps are taken to induce artificial respiration. He said the use of stimulants, medicine, etc., was of little benefit.

The increased use of West Texas crude by refiners both in the Mid-Continent and in Coastal plants has occasioned the study of the toxic effects of hydrogen sulphide as applied to refineries. The Bureau of Mines has issued several bulletins on the subject and a very complete discussion of the study was given in the January 26, 1928, issue of The Oil and Gas Journal.

To show the extremely small amount of the gas needed to render the rat unconscious, Mr. Marshall introduced the gas into a glass, airtight drum by breaking off the end of a sealed pipette of a given volume, and pumped the gas into the chamber through a rubber hose. The mixture contained approximately .1 per cent of hydrogen sulphide. The rat was immediately able to detect the gas as shown by his trying to get out of the chamber but within less than 60 seconds the rat was lying on his side completely paralyzed and breathing had stopped. Then the feet started to turn blue in color and from all outward appearances the rat was dead.

At this point, Mr. Marshall explained the dangers of hydrogen sulphide poisoning in the refinery. He said, while the rat apparently had the ability to detect the presence of the gas in toxic concentration, a man could not. The statement was made that no workman, overcome with the gas ever remembered having received a warning of its presence despite the fact it has a very characteristic "rotten egg" odor when present in small quantities. Thus it is difficult for a still man or a gauger to avert being overcome, if there is a chance for the gas to accumulate in the receiving house, yard, tank, etc.

The gas is heavier than air and for that reason it may accumulate in pockets and a man who is overcome further endangers the possibilities of being revived by falling into the greater concentration of the gas along the ground surface. By not being able to foretell the presence of the gas, it is necessary that a second man be on the lookout for his fellow workmen, where there is a chance one might be overcome. This has made it necessary for some companies to require at least two men to go together to gauge run down tanks and storage tanks of refined products made from West Texas crudes, or the crude itself.

Artificial Respiration

Once a man is knocked down by the gas, he will not regain consciousness without help. Breathing stops and the muscles of the body become rigid as in the case of the rat. Life is prolonged only through the ability of the heart to carry on for a short period without the supply of air. A man who has a weak heart has less chance of being revived than one who has a strong heart. After 15 minutes of unconsciousness there is little hope of reviving the one overcome, but there have been several instances in which the man had been unconscious for a period of from 10 to 15 minutes and was revived by artificial respiration. In some cases, however, it was necessary to work with the subject for several hours.

Mr. Marshall's aim was to impress on refinery operators that even though a man is rendered unconscious and respiration stops, and he may have become discolored badly, there still is a very favorable chance of his recovery if he is removed to a place where he can get good air and artificial respiration is immediately applied by laying the man on his stomach with his face to one side while pressure is slowly induced and relieved by a second party straddling the patient and repeatedly bearing down on the patient's back with his hands in accordance with the well known procedure.

The rat was brought back to normal by exhausting the chamber and inducing artificial respiration by pumping air into the chamber at a pressure of 3 pounds per square inch and then releasing the pressure. The increased pressure pushed in the sides of the rat and when the pressure was released, the sides returned to their normal position. Within a few minutes, the rat started to regain the use of his leg muscles and then struggled hard to get up. Mr. Marshall said it is often necessary to hold the man down at this point. After a few more minutes of applying and relieving the pressure, the rat began to breathe of his own accord and passed into a sleep. Then he was allowed to sleep for about 5 minutes after which he was awakened and appeared to be perfectly normal.

A human, recovering from hydrogen sulphide gas likewise, has no bad after effects. This apparently is the only favorable thing that might be said for the gas, however.

RULE ON PLACING TANK CARS

The question of locating tank cars in a train is almost entirely in the hands of the railroad for the loading rack man merely fills the cars and these are turned over to the railroad upon signing the bill of lading. However, the shipping of drums, pipe, gas cylinders, etc., has raised the question regarding the location of tank cars in a train with respect to cars hauling materials that will shift and the following answer has been given the question in the Interstate Commerce Commission regulations.

"Placarded tank cars must not be placed in trains next to cars placarded 'Explosive,' nor next to cars containing lighted heaters, stoves, or lanterns; and when practicable must be placed not nearer than the sixth car from the engine, electric locomotive, or motor car, or caboose, nor next to gondola or flat cars with lading that is likely to shift, such as logs, lumber, rails, or pipe."

This paragraph is intended to prevent placing car loads of pipe and so forth next to gasoline tank cars regardless of the amount of such material in the gondola. The paragraph does not constitute an absolute prohibition against placing such a car next to the tank car as the situation might arise where such a placing could not be avoided, as for example a train consisting of twenty cars of logs and one tank car of gasoline. It is the intent of the paragraph to avoid such placing wherever the make up of the train makes the avoidance of such a placing possible.

Recent Patents

VAPORS EXCHANGE HEAT

1,729,215. Art of Distillation of Petroleum Oils. Richard W. Hanna, Piedmont, Calif., assignor by mesne assignments, to Standard Oil Co. of California, San Francisco, Calif., a corporation of Delaware. Filed October 4, 1923. Serial No. 666,474. 5 Claims. (Cl. 196—94.)

3. A process of separating mixed petroleum vapors, which includes passing all of such vapors, at a temperature below that at which portions thereof would crack or decompose, through closed transverse passages contained within a chamber, withdrawing and returning a part of said vapors to said chamber, wherein reflux of the heavier fractions of the returned vapors is obtained by a cooling means, and in which chamber this reflux is reheated and partially revaporized by heat supplied by the first said petroleum vapors, but out of contact therewith, and withdrawing the residue reflux remaining from said revaporization.

1,688,855. Process for Converting Petroleum Oils. Aubrey D. David, Chicago, Ill., assignor to the Universal Oil Products Co., Chicago, Ill., a corporation of South Dakota. Filed February 14, 1923. Serial No. 619,038. Renewed April 24, 1928. 3 Claims. (Cl. 196—69.)

1. A process for treating hydrocarbon oil consisting in raising the oil to a cracking temperature while advancing in a stream through a heating zone, in transferring the highly heated oil to an enlarged reaction chamber wherein a substantial body of oil accumulates and wherein no rise in oil temperature occurs, in taking off vapors from said enlarged chamber for condensation and collection, in continuously withdrawing residual oil from said enlarged chamber without recirculating any portion thereof through said heating zone, in maintaining a swirling motion of the liquid oil in said enlarged chamber to hold the carbon in suspension in the oil by withdrawing a portion of the liquid oil therefrom and returning it under an increased pressure to said chamber tangential to the wall thereof.

1,666,560. Method of Refining Heavy Mineral Oils by Means of Sulphur Dioxide in a Continuous Operation. Lazar Edeleanu, Karl Pfeiffer, Karl Gress and Paul Jodeck, Berlin, Germany. Filed June 25, 1927, Serial No. 201,474, and in Germany June 12, 1924. 3 Claims. (Cl. 196—37.)

1. In a process for refining heavy mineral oils by means of sulphur dioxide in continuous operation; preparing an intimate mixture of the oil and the sulphur dioxide in a vessel by means of a churning device, continuously supplying the mixture to a settling receptacle with a successively decreasing speed and at a zone located about in the midst of the mixture already contained in said receptacle.

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1 HORIZONTAL JET CONDENSING RECIPROCATING PUMP, size 15" x 33¾" x 58¼" x 8½" x 36".

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NEW YORK, N. Y.

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FOR SALE: two Star Drilling Machines with tools. Numbers 28 and seven steam outfits. Booe & Stevenson, Chanute, Kans.

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1—1,500 gal. Tank. 3 ft. dia. 26 ft. long, ⅜" shell, 1½ in. convex heads, 500 lbs. working pressure, first class.

1—10,000 gal. Extra Heavy Demounted Tank Car Tank, has heater coils, overhauled, Tested, Painted, Guaranteed. In stock East Saint Louis.

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MACHINERY & SUPPLY CORP.,
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FOR SALE—Whitney steel derrick. Three-inch legs. 67 feet high. Good condition. Price $400, f.o.b. our Tulsa yard. Thermal Oil & Gas Co. Phone 2-6969, Tulsa.

FOR SALE—EQUIPMENT

FOR SALE—Reconditioned pipe, casing and oil and gas well supplies. Lee Morrison Supply Co. Yards at Bartlesville and Sand Springs, Okla.

FOR SALE OR TRADE

One 35-horsepower McCune gas engine with reversible clutch in good running condition. One 1,600-bbl. wood tank, nearly new. Will sell cheap for cash or will trade for pipe or 100-bbl. gas-tight tanks in good condition. Address Box D-172, The Oil and Gas Journal, Tulsa, Okla.

EQUIPMENT WANTED

WE ARE in need of twenty miles of eight-inch plain end line pipe. Also 50-60 HP drilling engine. Shore Gas Co., Gerrans Bldg., Buffalo, N. Y.

WANTED—Fort Worth Spudder machine with or without tools. Give model, condition, list of tools, lowest price. Box 197, Ottawa, Kansas.

12½ MILES GOOD PIPE WANTED

To buy soon 12½ miles good pipe threaded. Preferred with couplings, subject my inspection. Quote f.o.b. St. James Station, Louisiana. Quote on 6, 8, 10, 12 inches.

F. P. JOSEPH,
Consulting Engineer,
Glenmora, La.

WANTED: Rotary. Fort Worth Spudder, Super D., or 28 Star Steam Drilling Machine. Will pay difference, if any, between fine Boggy River Bottom land, Choctaw County, Okla., and outfit. Box 684, McAlester, Okla.

BUSINESS OPPORTUNITIES

HAVE FROM $2,000.00 to $10,000.00 to invest as partner in business proposition. Am 28, single, with several years oil field sales experience. Write Box D-181, The Oil and Gas Journal, Tulsa, Okla.

ATTENTION MANUFACTURERS

A recently organized sales agency with a personnel composed of well known, experienced competent men, covering the entire Mid-Continent area are in a position to introduce and sell either direct, or through the major supply companies, any oil field specialty of merit. We shall be glad to exchange references with any manufacturer desiring competent representation in the Mid-Continent. We invite your inquiries. Write Box D-182, The Oil and Gas Journal, Tulsa, Okla.

S. E. OKLAHOMA absolute title land bargains, 40 to 1,000 acre tracts of coal in new oil and gas field; $5 an acre up. John Cavanagh, McAlester, Okla.

OKMULGEE COUNTY PRODUCTION FOR SALE BY OWNERS

338 acres, 16 Booch sand wells, depth 1,700 feet, 10 years old. 160 acres, 4 Dutcher sand wells, depth 1,900 feet, 5 years old. 17 to 20 bbls. production daily. Properties are being pumped by one man. Plenty undrilled locations. Wonderful opportunities to raise production by deeper drilling, cleaning out, installing air. Well now drilling very close to property. Good equipment on leases, including pulling machine, tractor with winch, also No. 30 Star machine with string of tools from 12-inch to 6-inch. 1,300 feet 8-inch and 300 feet 10-inch casing and other equipment. Reason for selling, must have cash for other development work. If you are looking for oil investment, look this over as the salvage value of these leases is worth the price asked. Price $25,000. Address Box D-171, The Oil and Gas Journal, Tulsa, Okla.

WE ARE IN TOUCH with Eastern capital, for acquisition, development, and operation of meritorious oil enterprises. Send full particulars. O. E. and G. M. Maddox, 6323 Main Street, Kansas City, Missouri.

WANT OIL DEVELOPMENT, cheap lease, large area in Pushmataha County. For particulars write I. N. Billingslea, Sobol, Okla.

FOR SALE—Or partner wanted. Patent of first visible gasoline pump. All others are infringments. Write for information. Lee Wilson, Olvey, Ill.

REPUTABLE PUBLIC UTILITY will buy natural gas properties consisting of pipe lines and distribution or distribution only. Will also build systems where gas supply and market will stand full investigation. Write Box D-165, The Oil and Gas Journal, Tulsa, Okla.

YOU can make BIG money helping to develop the gold mining industry of Colombia, South America. For particulars address Davidson, 201 First National Bank, Denver, Colo.

WILL GIVE 6,000-acre lease Arkansas land for 1,800-foot hole. Strictly "wildcat." Good geology. W. C. Hammer, Claremont, Ill.

GAS FILLING STATION

For sale—Singly or groups; all sizes and prices, in many states. Ed. E. Walker & Co., 519 Madison Avenue, Covington, Ky.

HELP WANTED

DESIGNING ENGINEER

Firm specializing on Pipe Stills and complete refinery installations has opening for experienced designer and estimator. Permanent opportunity for technical graduate possessing initiative, experience and personality. Box No. D-143, The Oil and Gas Journal, Tulsa, Okla.

WANTED PRODUCTION FOREMAN—Gang pusher. Recent graduate of petroleum engineering. Must know how to handle water, typical of Gulf Coast conditions. Modern four-room house furnished. Give all details regarding experience and salary expected, or no attention. Write Box No. D-170, The Oil and Gas Journal, Tulsa, Okla.

MECH. ENGINEER capable of designing and construction cracking stills wanted for work abroad. State complete record and salary expected. Address Box D-168, The Oil and Gas Journal, Tulsa, Okla.

PERMANENT POSITION in general engineering department, Tulsa; scope of work, refinery design, natural gasoline plant and pipe line. Opening for one refinery designer, two first-class draftsmen, one planner and estimator, one material man to take off quantities from drawings, make requisitions, etc. Write Box D-146, The Oil and Gas Journal, Tulsa, Okla.

THE TECHNICAL DEPARTMENT of a large marketer of petroleum products in the Middle West has an opening for a capable, energetic young university graduate with chemical engineer degree, or at least two years' chemistry. His major experience should be petroleum technology, particularly greases. Apply at once, giving age, education, experience (full particulars), references, salary desired, etc. Write Box D-150, The Oil and Gas Journal, Tulsa, Okla.

CHEMICAL ENGINEER—For process design of oil refinery equipment, including pipe still furnaces, treating plant, general fractionating equipment, et cetera; man with at least three years' process experience in oil refinery, having worked preferably on design or test work; age 25 to 38; good salary; location, Elizabeth, N. J. Apply Standard Oil Company of New Jersey, 26 Broadway, New York City, Room 943.

POSITION WANTED

ENGINEER AND EXECUTIVE, with refining and producing company. Experienced in design, construction and operation of refining and gasoline plants; also reports, appraisals, estimates and purchases. Broad scientific training and business experience. Address Box D-162, The Oil and Gas Journal, Tulsa, Okla.

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ENGINEER, RESEARCH AND SALES, experienced designer and operator, would like engineering and sales promotion work (not peddling) introducing new processes or equipment of merit; where opportunity exists for a skilled, scientific investigator with business sense; of good personality and acquaintance throughout the middle west. Address Box D-163, The Oil and Gas Journal, Tulsa, Okla.

ACCOUNTANT-ATTORNEY competent to handle accounting and title records of producing or royalty organization desires new connection. Reasonable salary to commence with. Will consider law office work. Write Box D-142, The Oil and Gas Journal, Tulsa. Okla.

GEOLOGIST. Over two years field and subsurface experience with major companies in Mid-Continent area. Desire position with oil or royalty company. Write Box D-167, The Oil and Gas Journal, Tulsa, Okla.

EXPERIENCED LAND MAN, leasing, rights of way and claims. Would like to have place with oil or gas company. Go anywhere. Good references. Write Box D-169, The Oil and Gas Journal, Tulsa, Okla.

GRADUATE GEOLOGIST desires position with an oil company in Mid-Continent Fields. Willing to start with a small salary. Experienced. References. Available at once. Write Box D-180, The Oil and Gas Journal, Tulsa, Okla.

SALESMAN—Experienced, competent salesman, 29, with ten years sales experience in rotary drilling and production equipment throughout the Mid-Continent, desires to make a change. Would like strictly commission sales work in my line or salary in line with the results of my efforts. Willing to furnish own car of any make. Now employed and can furnish very best of references. Write Box D-183, The Oil and Gas Journal, Tulsa, Okla.

CIVIL ENGINEER—Eleven years experience in oil industry. Thoroughly familiar with production, pipe line construction, and general engineering methods in oil fields. References furnished. Write Box D-184, The Oil and Gas Journal, Tulsa, Okla.

LEASES—PRODUCTION

FOR SALE—2,000-acre lease with good "sweet" gas well, Panhandle Field, Texas. M.E.B., care The Oil and Gas Journal, Tulsa, Okla.

20,000 ACRES. SOLID BODY. Six miles from railroad. Western Jeff Davis County, Texas. Ten year paid up lease one dollar per acre. Will sell in fee four dollars per acre. Good geology. Come here and check this up.
W. H. Colquitt, Owner
Box 274, Marfa, Texas.

FOR SALE OIL LANDS, LEASES AND ROYALTIES in Michigan, Oklahoma, Texas and New Mexico. Wire or write R. O. Zielinski, 12836 Wood Street, Blue Island, Ill.

SOUTHEASTERN NEW MEXICO leases. Lea, Eddy, Chaves Counties. Prices and maps on request. Orcutt-Harris & Co., Colcord Building, Oklahoma City, Okla.

ACTIVE LEASES and royalties for sale in Howard, Glasscock and adjoining counties in West Texas. Write or wire W. T. Mann, P. O. box 97, Big Spring, Tex.

I have absolutely proven 10-acre lease in heart of Oklahoma's second largest high grade oil pool. Will sell or let for drilling. Production every direction; no dry holes. Five hundred barrel well offset one corner just in. Also have good offset leases for drilling or sale in greater Earlsboro Field. Sterling Anderson, Box 151, Earlsboro, Okla.

LEASES FOR SALE

Located in the heart of Alberta's Oil activity. Priced right by owner. Northern Investments, 303 Alberta Corner, Calgary, Alta.

LEASES—PRODUCTION

HAVE TEN ACRE TRACTS in Fee, Leases and Royalties, west Texas oil fields. Joe Cunningham, Big Spring, Tex.

LAND, Leases, Royalties and Drilling Blocks in proven or unproven territories, Winkler, Pecos, Ward, Loving, Reeves, Culberson and adjoining counties. Wire or write.
H. F. Anthony, Anthony Bldg.,
Pecos, Texas.

OWNERS of approximately 11,000 acres in Clark County, Kansas, would like to get in touch with oil producing companies desiring to lease. Address Box D-113, The Oil and Gas Journal, Tulsa, Okla.

OIL LEASES AND ROYALTIES. Schleicher, Pecos, Ward and other counties. West Texas land and ranches. J. L. Ferguson, Rust Building, Box 462, San Angelo, Tex.

WEST TEXAS LEASES for sale in Irion, Menard, Concho and Tom Green Counties in tracts of 320 to 5,000 acres. This is sweet oil territory. Address H. B. Opp, Menard, Tex.

FOR LEASE—25,000 acres prospective oil land in Coahuila, Mexico. Rights confirmed to owner by Mexican government. S. R. Gonzales, Naranjo 2, Altavista. Tampico, Mexico.

FOR SALE—Drilling blocks, commercial blocks, royalties, leases, checkerboards, in Hodgeman, Ford, Finney, Trego, Gray, Seward, Stevens and Morton Counties, Kansas. Lou Meyers, Box 471, Dodge City, Kansas. Office Phone 122. Reference any Southwest Kansas bank.

NEW MEXICO LEASES

I offer some real bargains in cheap leases in several counties in New Mexico with perfect titles. All rentals run at 5 cents per acre. Write for lists, maps and descriptions. Frank P. Strickland, Sapulpa, Okla.

DRILLING blocks, leases, royalties in Ellis, Trego, Rooks, Norton Counties. Write or wire W. J. Madden, Hays, Kans.

WE AS TRUSTEES hold oil and gas leases on 178 acres situated in Swastika Oil Pool, which adjoins proven and producing property, there being four producing wells 150 feet from our lease line, all of said property is situated in Block 14, 15, 16 and 2,438, South Anderson Ranch Subdivision and L. M. Meade Surveys, Archer County, Texas. Depth at which pay sand is reached ranges from 1,354 to 1,388 feet, average drilling time 7 to 11 days. Actual development will start November 11, 1929, on this acreage. We desire to have a sufficient number of persons join in this pool as unit holders to carry out our plan of purchasing string of Rotary Drilling Tools and drilling up this property on our own account. Will stand the most rigid investigation both as to Trustees and Leases. Address R. A. Clampitt, Box 416, Olney, Texas, for full particulars.

ECTOR COUNTY well came in with 150-bbl. head in 15 minutes. Leases and Royalty for sale. Anderson, Linz Bldg., Dallas, Tex.

OIL PROPERTIES for sale, various sizes; La., Ark. Address, G. Lucas, 505 City Bank Building, Shreveport, La.

WESTERN KANSAS leases and royalties ahead of the play; 25 cents and up. C. H. Reser, Lassen Hotel, Wichita, Kans.

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CHARTERS—Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

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PUBLICATIONS

KENTUCKY OIL JOURNAL, devoted to the development of the oil and gas resources of Kentucky, and edited by Guy C. Bell, trained oil field reporter; published weekly at $2.50 per year. Accurate reports; independent policy; constructive and informative. Get all of the news while it is hot. Kentucky Oil Journal, Owensboro, Ky.

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ROYALTIES—PRODUCTION

OIL LEASES, royalties, producing royalties, and drilling blocks. O. O. Milliken, Box 63, Oklahoma City, Oklahoma.

ROYALTIES in Ness, Trego, Rice, Sedgwick, Butler, Cowley and other Kansas Counties under or near drilling wells, some on core drilled blocks. Also Royalties in Winkler, Pecos, Ward, Presidio and other West Texas Counties. Tests and maps. James R. Haynes, Grantville, Kansas.

FOUR PERPETUAL and Fully Participating Mineral Deeds under 2,326 acres diversified as follows:

Gaines County, Texas ..	246 acres
Kendall County, Texas ..	1,600 acres
Custer County, Oklahoma	320 acres
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All four deeds paid for in full forever for only $50.00 and we pay for having your deeds recorded in your name in the various counties. You receive your portion of all lease rentals and bonuses as well as oil, gas, and other minerals. Prospectus showing maps, opinions of title, etc., gladly mailed upon request.
ROYALTY A MONTH CLUB
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WILL SELL 10-acre tracts out of 10-year lease covering the south 154 acres of Section 12, Block 122, Pecos County, Texas; price $15 per acre. Close to Republic Production Co., Humble Oil & Refining Co., Pure Oil Co. and The Texas Company blocks. Send money to San Angelo National Bank. Will furnish assignment, copy of lease and copy of attorney's title opinion. M. Stein, St. Angelus Hotel, San Angelo, Tex.

WE DEAL in producing oil royalties and active oil stocks. Mail us your bids and offerings.
AMERICAN NATIONAL
BROKERAGE CO
E. T. Marion, Manager
12th Floor Athletic Club Bldg.
Dallas, Tex.

KANSAS ROYALTIES under drilling wells and core drilled blocks. Also Texas royalties. List free. Harry Haynes, Grantville, Kans.

EASTERN BROKERS—For Oklahoma producing royalties. Write Box 489, Shawnee, Okla.

FOR SALE—7½ per cent royalty on 2,124-acre lease, with drilling contract in T. 10 and 11 S. ranges 38 E., Lea County, New Mexico, at $1,000.00 per one per cent. John B. Dickson, Y. M. C. A., El Paso, Texas.

HAVE OPTION on one-sixteenth royalty 320 acres. Now under lease. Forty miles from world's best helium field. Can not handle alone. Will sell one thirty-second at option price. This is a real buy at $1.25 per acre. For complete data address H. C. Peterson, Craig, Colo.

YATES POOL ROYALTY

WILL sell 1 acre or more Sections 10 and 19, Blk. 194, Pecos County at $250.00 per acre. Glen Myers, San Angelo, Texas

J. A. WOLF & COMPANY
127 N. Dearborn, Chicago, Illinois.
We deal in Oklahoma Royalties exclusively.

ROYALTIES—PRODUCTION

ROYALTY and Leases in Western Oklahoma and Southwestern Kansas for sale at low prices. Sain & Company, Forgan, Okla.

FOR SALE—New and old settled oil and gas production, blocked acreage, shallow field. Anderson County, Kansas. W. L. Morris, Box 314. Garnett, Kans.

FOR SALE—Lea County deeded oil royalty. CASH paid for Lea County Oil Leases.

FOR SALE—Southeast N. M. oil leases EASY TERMS, small investment. Monarch Inv. Co., Roswell, N. Mex.

ACTIVE WEST TEXAS ROYALTIES $8 per square mile. Big company operation. See maps and bulletins. R. R. Fisk, Box 1214-B, Wichita Falls, Tex.

SHALLOW PRODUCTION FOR SALE

Have well making 8 barrels. Depth 500 feet. On 50-acre lease in Shackelford County, Texas. Wonderful drilling possibilities. On pump and fully equipped with two 100-barrel tanks. Pump and other equipment. Other wells at same depth in same sand are making from 20 to 40 barrels on adjoining leases. Can also acquire additional acreage. With the drilling of a few wells this lease could easily be made very valuable. For quick action will sell reasonably. Write or wire. H. W. Scott, 409 Burt Bldg., Dallas, Tex.

PERPETUAL ROYALTY INTERESTS

TWENTY DOLLARS WILL BUY perpetual royalty deed covering 640 acres in Hudspeth County, Texas. For information write William J. Rittinger, Box 25, Wilkinsburg, Pa.

PRODUCING ROYALTIES
$500 to $50,000

Also choice acreage in the Oklahoma City Field. Investments of $500 and up. W. M. Gallagher, P. O. Box No. 254, Oklahoma City, Okla.

REAL ESTATE

FOR SALE—Several tracts of mineral rights. Have one tract of 16,000 acres, another of 715 acres, which have been core-drilled and open pitted. Our geological report gives 240,000,000 tons of Rock Asphalt on the large tract and 4,000,000 tons on the small tract. For complete data address
W. P. HARLEY, Bowling Green, Ky.

58,000 ACRES deeded and leased land, Northeast New Mexico. Fine grass, running water, good improvements. Sell worth the money. McNabb Land Co., Box 1231, Amarillo, Tex.

IDEAL HOME in the perfect setting; never-failing lake, lots of fish, fruit, county seat. Real location for fur farm or tourist camp, near oil fields, 7½ acres. Federale route 50. Owner, W. L. Brown, West Main Street, McArthur, Ohio.

FOR SALE—Model cattle ranch, on top of the Ozark Mountains. An estate of 490 acres, including two miles of White River. Highly improved; modern in every way; complete in every detail. Very productive, one-half in cultivation. Ideal all-year-round home. Ten room modern house with heat, light, baths, and running water. Cash or terms. Write owner, Charlie H. Clouston, Rogers, Ark.

WEST TEXAS OIL lands. Fee, lease, royalty. Joe Cunningham, Big Spring, Texas.

FOR SALE—2,100-acre estate with proven vein of bitumen asphalt 16 feet thick, tested for road surfacing and roofing, only one-fourth mile from railroad. If interested, complete information, samples and price will be furnished. Address W. C. Pickens, Poteau, Okla.

80. IMPROVED, on state road; equipped; $1,200; 120 imp., 10 acres fruit, $2,500; 200 imp., valley tractor land, $4,000 terms. Arthur, Mtn. View, Mo.

OIL INDUSTRY PRINTING

OIL FIELD LEGAL BLANKS

Leases, assignments, releases, township books, well records, etc. Request on your letter head gets free catalog. Old Press, 215 East Third St., Tulsa, Okla.

(ADDITIONAL CLASSIFIED WANTS ON PAGE 131)

THE ONLY BOMB BETTER THAN A ZERO HOUR BOMB IS TWO

ZERO HOUR BOMBS——AND THAT'S THE ZERO HOUR DUPLEX

SUPER MODERN

this new DUPLEX Zero Hour Electric Bomb

Plug and Socket Connectors ... Improved Firing Pin

Electrical! The hall-mark of the age; the stamp of modernity. Electricity is proving to be the most skillful of all agents. When precision is sought, electricity is employed. When faithful performance is an issue, electricity is a smooth flowing, dependable force in all cases. When costs and economics need solution, again comes the cry for electricity.

The Zero Hour Electric Bomb, for detonating oil well shots, is notable among the hundreds of business and domestic appliances which employ electricity with scientific skill and precision. At the "zero hour" it is an electric current which sets off the harmless, match-like electric igniters, followed by the blasting caps, then the charge of dynamite which detonates the shot in the well. Always a sure and dependable performer for the Zero Hour Bomb, this electrical principal has been made double sure and dependable in the new Zero Hour Duplex Electric Bomb, which is, in effect, two bombs in one.

The same size container which formerly held the original Zero Hour Bomb, with one watch and one set of blasting caps, now holds the Duplex, with two watches and two sets of blasting caps. Thus, two complete timing and firing mechanisms, each independent of the other, are contained in the same metal, fluid-tight shell which formerly held one only, reducing the chance of a failure with the new Duplex Bomb to a figure so small to be almost beyond computation in ordinary mathematics. The improved firing pin can be moved backward and forward any number of times, in testing, without altering the firing point from "0," at which it is originally set. The new "plug and socket" method of connecting electric igniters makes loading easy and assures perfect electrical conditions. Use nothing but Zero Hour Duplex Electric Bombs to detonate your shots . . . and obtain up-to-date, economical efficiency in oil well shooting.

Zero Hour Bombs are obtainable through all principal torpedo companies

Zero Hour Electric Bomb

ZERO HOUR TORPEDO COMPANY 408 COSDEN BLDG. TULSA, OKLA.

LOUISIANA-ARKANSAS

(Continued from Page 122)

feet, and Magnolia Petroleum Co.'s No. 3 E. E. Hall, also an offset, flowed 25 bbls. total depth 3,248 feet.

New production in Urania district of LaSalle Parish which, though rather inactive as to drilling ranks second in north Louisiana production, is of sufficient rarity to be interesting. There were two wells in the district this week, Air Lift Oil Co.'s No. 3 Missouri Pacific Railroad, Section 26-10-1e, pumping 20 bbls. from 1,525 feet. Previous report that it was abandoned at 1,529 feet was in error. Montagu Oil Co.'s No. 7 Zenoria, in the Little Creek division of the district, set 4½-inch at 1,504 feet and was completed at 1,515 feet flowing 120 bbls. initial of clean oil. Across the line from Urania proper, in Winn Parish, Thompson Brothers' No. 1 Sanders, Section 27-10-1e, was dry and abandoned at 1,625 feet.

The Monroe Gas Field could account for but one completion, but Richland had four, the five gassers having an initial open flow of 130,958,814 feet of gas. Monroe's well was J. S. Herkness' No. 9 Bowles, Section 17-20-5, gauging 2,952,000 feet, total depth 2,248 feet. Three of the Richland wells were in the northern end of the field where the play has been centered for the last few months. Palmer Corp.'s No. 1 Louisiana Petroleum Co. in Section 22-17-6, a workover, made 3,500,000 feet of gas from 2,478 feet, 2 feet below the level at which it was completed by Louisiana Petroleum Co. as No. 1 Binion & Sartor, with an initial 5,000,000 feet in September, 1927. Two other wells also were Palmer completions: No. 4 Marshfield, Section 20-17-6, gauging 51,124,814 feet at 975 pounds, total depth 2,444 feet, and No. 1 Mulhern, Section 29-17-6, gauging 49,838,000 feet, total depth 2,445 feet. Magnolia Petroleum Co.'s No. 1 B. F. Sartor, Section 17-16-6, gauged 23,544,000 feet at 820 pounds, total depth 2,416 feet. All these wells are close to the 2,450-foot average depth of Richland wells but Palmer Corp.'s No. 4 Rhymes, Section 28-17-6, appears to be slated for the deep stuff tapped by Hope Production Co.'s No. 1 Eubanks in Section 26-17-6, which missed the regular Richland pay and developed 7,653,000 feet of gas at 1,260 pounds in the Trinity at 2,942 feet. The Rhymes was dry at 2,450 feet and is in the red beds at 2,615 feet.

Smackover

While practically all of the 29 operations under way in Smackover on both the Union and Ouachita County sides of the line, are in line with the new shallow sand play, only two completions were listed there this week. Arkansas Natural Gas Co.'s No. 1 Avera, Section 35-15-15, Ouachita County, pumped 30 bbls., 10 per cent water, from around 2,000 feet and E. L. Chapman's No. 1 Purifoy in Section 2-16-16, Union County, pumped 10 bbls. from 2,150 feet. The former was a new test but the latter plugged back from 2,327 feet after drilling to that depth from 2,150 feet where it had been finished pumping 15 bbls.

The old Keen & Woolf properties that were sold some time ago to Sam Sklar, were transferred this week to Root Refineries, Inc., for $30,000 cash. They consisted of 100 acres with six wells making 80 bbls. daily and were the Bradford lease, NW NW Section 7-16-15, two wells making 20 bbls.; the Murphy lease, east half SE NW Section 9-16-15, two wells making 45 bbls.; and the Henshaw lease, NE SE Section 17-16-15, two wells making 15 bbls. Gann and others abandoned No. 1 Doss, Section 10-17-14, Champagnolle, as a salt water hole at 2,700 feet, total depth 3,240 feet. Standard Oil Co.'s No. 6 Goodwin, Section 36-17-16, El Dorado district, pumped 20 bbls. oil and 10 bbls. water from 2,230 feet. Flaucher and others' No. 1 Buck, Section 7-15-17, a wildcat east of the Mount Holly district of Ouachita County, was abandoned at 1,475 feet where it had been shut down for the last three or four months and the leases have expired. T. A. Griffin and others are assembling a block centering on Section 19-15-15 just north of the Smackover shallow play and have taken 700 acres so far and are obligated to drill by December 1.

Louisiana Oil Refining Co. is arranging to deepen two of its wells in the Stephens district of Ouachita County, No. 1 Green, Section 22-15-19, completed March 28, 1926, pumping 100 bbls. from 1,555 feet, and No. 1 Haltom, Section 15-15-19, completed September 12, 1926, making 20,000,000 feet of gas from 1,554 feet. Helena Oil & Gas Co. abandoned No. 1 Pickler, Section 19-19-22, Columbia County, taken over from the Von Hagan Syndicate, at 2,800 feet as a dry hole.

MICHIGAN FIELDS

(Continued from Page 53)

trustee's No. 1 Delong, NE SE, Section 12-10-17.

Muskegon County Wildcat

Enough gas to burn but not enough for commercial production was struck in F. J. Johnston's No. 1 Johnston-Marston-Janicke, SW NW, Section 1-9-15, Sullivan Township, about 15 miles southeast of Muskegon. The well was drilling at 1,880 feet.

The Herman Hanson Oil Syndicate's No. 1 Foot, NE NE, Section 8-9-15, Sullivan Township, is drilling between 1,950 and 2,000 feet after being dry in the upper Traverse. These two Sullivan Township wildcats are the only present hope for development of a new oil pool in Muskegon County.

Buchanan and Frye have started drilling on their No. 1 Fruitvale, SW SE, Section 6-12-16, Blue Lake Township, near Rochdale Inn. These three wells are the only wildcats drilling in Muskegon County.

After having three shows of oil in the upper Traverse the Dixie Oil Co.'s No. 1 G. H. Telder wildcat, SW SW, Section 35-6-15, Olive Township, Ottawa County, southeast of Grand Haven, is to be carried to the Dundee for a possible deep test.

The Wright Oil Co.'s No. 1 Joseph Kluting, SW NW, Section 10-8-13, Wright Township, is putting on a new line at 4,581 feet and Royal R. Miller's No. 1 Paul Sako, NE NW, Section 27-7-16, Grand Haven Township, has been shut down at 4,050 feet because operators were undecided whether to drill deeper or plug the hole. Both have had shows of oil and gas in various formations.

The Michigan Petroleum Co.'s No. 1 C. E. Moe, SE SE, Section 6-9-13, Chester Township, is nearly as deep.

Newaygo County

A second well on the property of State Senator Orville E. Atwood, of Fremont, was dry in the upper Traverse striking a show of oil and gas immediately followed by water at 2,222-24 feet. The well was drilled by the Hervey Syndicate and was known as the syndicate's No. 1 Atwood, NE NE, Section 31-12-13, Garfield Township, Newaygo County. The Traverse limestone was topped at 2,201 feet and water, oil and gas were encountered together at 21 feet in the formation. It has not been decided whether the well will be carried on to the Dundee or plugged and abandoned.

Uhl and Sarver's No. 1 David E. Uhl, NW SE, Section 20-13-12, Everett Township, is being plugged back from about 3,500 feet to a show in the Dundee at about 3,200 feet. It will be shot and probably abandoned unless it makes a small producer.

The deepest test in Newaygo County is the Newaygo Oil & Gas Co.'s No. 1 A. J. Bates, NE SE, Section 12-13-13, Sherman Township. It is shut down at 3,800 feet to change power so that it may be drilled to maximum of 5,000 feet if necessary. No water has been encountered since above the Traverse.

The Pennsylvania Oil & Gas Co.'s No. 1 Miller, SE SE, Section 33-14-11, Goodwell Township, is shut down at about 1,400 feet with a broken engine.

Oceana County

Edward DuVall's No. 1 Schultz, NW NW, Section 12-15-18, Golden Township, the latest new location in western Michigan and Mr. DuVall's fourth wildcat in Golden Township is driving pipe.

The Oceana Oil Corp.'s No. 1 Vanderwaal, SW SE, Section 35-14-17, Shelby Township, is drilling at about 2,700 feet and two other Oceana wildcats are still shut down: Red Rock Oil Co.'s No. 1 Fiel, SW SE, Section 31-15-18, near Silver Lake, Golden Township, drilled by Edward DuVall, and the Sankey Oil & Gas Co.'s No. 1 G. A. Beam, NW SE, Section 22-14-15, Newfield Township, near Hesperia, drilled by C B. Jetter.

Charles W. Teater, of Chicago, a former Texas and Louisiana operator, has moved in a rig and will soon start a wildcat in Colfax Township, Oceana County, to test the territory near the junction of Mason, Lake, Oceana and Newaygo Counties, about 50 miles north of the Muskegon Field. The well is on the Stuart ranch, SE NE NW, Section 11-16-15, Colfax Township, between the Pennsylvania Oil & Gas Co's No. 1 Bert Snow in Section 23, Beaver Township, which had a good show of oil in the Dundee before drilling into bottom salt water and the Peerless Oil Co.'s two Niagara gassers and one upper Traverse oil well in Logan Township, Mason County, near Walhalla.

The Snow well is about 8 miles south and the Peerless wells about 5 miles north of the new wildcat's location. Northeast are three Lake County wildcats being drilled by Patterson and Day, the Super Oil & Gas Co., of Ludington, and Brindel Brothers.

Wildcat Plugged

Fred H. Loveday, of the Muskegon field office of the state conservation department, made a trip to the Bale-Hickey-Snyder's No. 1 Snyder in Montcalm County, to supervise plugging as a duster. After being drilled to a depth of 4,385 feet, this well was plugged back and shot for a show of oil in the Dundee pay sand at 3,496-3,506 feet but failed to make a commercial producer. Exact location is NE NW, Section 20-12n-8w, Cato Township, Montcalm County. It is on a direct line between the Muskegon and Mount Pleasant Fields where it was hoped new pools might be opened.

Lake County

Brindel Brothers' No. 1 J. Cummings, Lake County wildcat, located SE NW, Section 32-18n-14, Sweetwater Township, was dry in the upper Traverse and is drilling deeper at about 2,600 feet.

Two others are drilling at about 2,800 feet, one below and the other above the upper Traverse. The one which drilled through the upper Traverse without success last week is Patterson and Day's No. 1 C. C. Davis, NE SW, Section 19-18-12, Cherry Valley Township. The other is Fred J. Estes and others' No. 1 W. L. Kellogg, NW NW, Section 11-20-11, Dover Township. It has not reached the Traverse at 2,800 feet.

The Super Oil & Gas Co.'s No. 1 Skirven, SE SE, Section 15-19-4, Elk Township, has a fishing job just below the drive pipe.

The Fisher-Robbins Oil & Gas Co.'s No. 1 Chamberlain estate, NE SW, Section 14-24-16, Arcadia Township, Manistee County, near Arcadia, has been shut down to test a mineral water struck at about 860 feet.

OIL TARIFF CHANGES

A report of the Tariff Commission on tariffs in foreign countries refers to recently established new duties by England on petroleum oils. Increased duties have been levied by Japan on gas and petroleum. Persia has increased the duty on gasoline and Spain has limited imports of mineral oils to certain kinds. A large increase in duty on gasoline has been imposed my Switzerland. The importation of petroleum into Turkey is controlled by the government, which has decreased its consumption duty on this product.

EMPIRE P. L. STATEMENT

The Empire Pipe Line Co.'s statement of business in September shows crude oil runs of 1,704,033.40 bbls., daily average 56,801.11 bbls.; shipments 1,481,630.68 bbls., daily average 49,387.67 bbls.; stocks 5,219,646.68 bbls.

Classified Wants

(Continued from Page 129)

PATENT ATTORNEYS

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form, Evidence of Conception. Bulletin "How to Establish Your Rights and complete information free.
LANCASTER & ALLWINE
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LOYAL J. MILLER
Registered patent attorney.
626 Insurance Building,
Oklahoma City, Okla. Phone 3-1743.

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We are in a position at this time to name some mighty attractive prices and delivery. Any size from any steel. Allowing us an opportunity to quote will not be regretted.
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GEOLOGISTS

OIL LOCATED before drilling. Geophysical method. Toggodometer Instrument; take pay in oil. No oil, no pay, except traveling and testing expenses. 95 per cent accuracy. O. P. Coffin, Caddo, Tex.

OUR EUROPEAN OIL FINDER is available for making drilling locations. The manufacturer of this instrument guarantees successful drilling locations. D. C. Oliphant, 19 West 44th Street, New York.

OIL AND MINERAL located with radio activity method. Have found several structures in Oklahoma and adjoining states. Need party lease or finance. Good references. Sievers, 1307 South Lawton, Tulsa, Okla.

FOR SALE—MAPS

NEW MAP OF
MID-CONTINENT OIL FIELDS
Suitable for pocket or desk top, shows counties and producing areas in Oklahoma, Kansas, Texas, Arkansas, Louisiana and Eastern New Mexico. Postpaid for $1.
KELLY MAP CO.
P. O. Box 1773, Tulsa, Okla.

WANTED

HAVE YOU REAL BARGAIN? "Perpetual royalty" profit possibilities. Mail particulars. Investor, P. O. Box 382, Troy, N. Y.

WANTED TO BUY shallow production with undrilled locations. Gas on lease must be suitable for casinghead gasoline plant. If gas is contracted for give date contract expires. Address Box D-151, The Oil and Gas Journal, Tulsa, Okla.

WANTED PARTIES WITH CAPITAL to carry me one-eighth interest free in best 80-acre lease, surrounded by major oil companies near Creekville, Ohio, oil pool. Lease had one Clinton sand well ruined by shot years ago, flowed 50 bbls. first 24 hours, produced thereafter by swabbing. When abandoned oil flowed over derrick height. C. H. Wise, Rd. 2, Renfrew, Pa.

LARGE WELL EQUIPPED plant with plate fabricating shop, pattern shop, foundry and machine shop wishes to secure patented specialties to manufacture. Complete information should be submitted for consideration. Address Box No. D-166, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Engineering and financial aid in the development of parking system utilizing 75% to 85% floor space. Box 393, Bartlesville, Okla.

WANTED. Drilling contractor (standard) to put down 4,000-foot hole on location between two producing wells. Pay in oil. Address, 11 Estes Bldg. Shawnee, Okla.

WANTED
GAS SERVICE STATION in any large City—cash; send full particulars. Write Box D-185, The Oil and Gas Journal, Tulsa, Okla.

ADDRESSES WANTED

BENJAMIN FRANKLIN CONNER. Anyone knowing the present address of this person is requested to communicate at once with his daughter, Mrs. Fern Conner McKinney, 28 Palmer Street, Toledo, Ohio, who is anxious to locate her father. He is an oil man, formerly of Oil City, Pa., but for the last 22 years has lived in Oklahoma.

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Natural Gasoline Manufacture

Safe Loading and Handling of Tank Cars Demands Care

By R. E. Biggs
Columbian Gasoline Corp.*

It has been ascertained that a mixture of air containing 1.5 to 6 per cent gasoline vapors, if ignited, will explode. Mixtures containing greater than 6 per cent gasoline vapor will burn if 12 per cent of oxygen is present. Approximately .2 of 1 per cent of gasoline vapor with a mixture of air will asphyxiate workmen. Therefore, great care should be exercised when loading gasoline or crude oils or when working about cars which have contained them that have not been cleared of the poisonous vapors.

Petroleum vapors are heavier than air and remain in tank cars indefinitely unless removed by circulation of air or steam or forced out by filling with water.

Only men thoroughly familiar with the danger connected with loading gasoline should be permitted to do the work. These workmen should be well informed as to proper and safe procedure under the usual conditions.

Knowledge of Regulations

The individual in charge of loading tank cars and all of his assistants should be familiar with the regulations laid down by the Bureau of Explosives. Before tank cars are brought onto loading tracks an inspection should be made of the grounding, bonding, insulation of loading racks and tracks and loading lines; also the electric lighting, telephone, etc., in use at the rack.

Gasoline, when flowing through a pipe line, will generate static electricity. By placing a bonding wire or line from the loading line to the shell of the tank car and a bonding line from the rails of the tank car to the loading rack supply line a circuit is established which eliminates the possibility of building up a static charge. These bonding lines should be inspected frequently to be sure that they are in working order.

The electric wiring at loading racks should be installed in vapor proof conduit, and vapor proof light globe covers should be used. Sometimes outer globes are found half full of rain water. Such globes are not vapor proof. All portable lights used around gasoline loading racks should be vapor proof electric lanterns or vapor proof flashlights.

The Interstate Commerce Commission regulations require shippers to provide blue flag stop signs to be placed on track at end of approach to tank cars when repairs are being made to cars or when loading is under way. Each crew, when starting to work, must put out its own

(Continued on Page 145)

*Plant foremen's meeting.

TO START YATES PLANT

The Humble Oil & Refining Co. is completing the construction of a 12-unit plant in the Yates Pool of West Texas. It is the first plant to be built in the Yates Pool and when completed will be one of the few operating plants in West Texas. The Humble plant will be operating within 30 days.

INSPECT PROPERTIES

Chester A. Sheppard, president of the Forrest E. Gilmore Co., and E. L. Hall, executive vice president of the company, both of Portland, Ore., are now inspecting the Mid-Continent properties of the company. The Gilmore company has rapidly expanded its facilities for manufacturing natural gasoline during the past few months.

NATURAL GASOLINE PRODUCTION IN SEMINOLE FIELD SHOWING DECLINE

Natural gasoline production in the Seminole Field showed a substantial reduction at the close of the past week compared to that of August 23 when the production totaled 1,180,700 gallons daily, the peak to date. The present production is 1,152,500 gallons. This decrease has not been influenced by outside factors and might be taken as the start of a gradual decline in the production for the area although, so long as new pools are found and restrictions are maintained on production and drilling, the potential production of natural gasoline can not be accurately judged.

Manufacturers in the field expect a further decline in their production after November 1 when a crude production curtailment program goes into effect whereby 20 per cent of the production will be shut in. The manner in which this curtailment program is carried out on the individual leases will be a great factor in determining how greatly natural gasoline production will be affected. Some companies expect close to 20 per cent less natural gasoline to be produced in their plants when the program is put in force, while others expect very little change. It is very likely the production will fall below the 1,100,000 assuming only a 5 per cent decline.

Some increase in the production is expected to come from the cooler weather and this will dampen the effect of the

(Continued on Page 135)

NATURAL GASOLINE PRODUCTION IN GREATER SEMINOLE

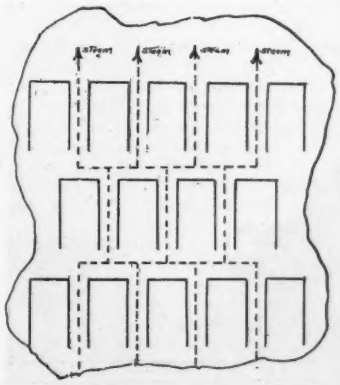
	Seminole City	Bowlegs	Earlsboro	Little River	St. Louis Pearson	Maud	Mission	Total
Amerada Pet. Corp...	.....	7,500	14,000	.....	.....	23,500	.....	45,000
Aircraft Gasol'e Corp.	.....	.....	.....	3,000	.....	.....	.....	3,000
Barnsdall Oil Corp...	.....	.....	20,000	.....	.....	8,000	.....	28,000
Carter Oil Co.	†135,000	6,000	.....	43,000	.....	.....	.....	184,000
Crosbie & Moran	.....	.....	26,000	.....	.....	.....	.....	26,000
Empire O. & R. Co.*	28,000	45,000	.....	8,800	.....	21,000	.....	102,800
For'st E. Gilmore Co.	.....	9,000	.....	40,000	20,000	.....	.....	69,000
Gypsy Oil Co.	.....	.....	.....	55,000	.....	.....	65,000	120,000
Independent O. & G.	.....	.....	.....	27,500	.....	.....	8,000	35,500
Magnolia Pet. Co. ...	.....	.....	6,500	.....	10,000	.....	.....	16,500
Moran & Gillespie ..	.....	.....	.....	.....	27,000	.....	.....	27,000
Pure Oil Co.	13,900	7,100	.....	11,100	7,100	.....	.....	39,200
Powers, M. F.	.....	.....	.....	.....	9,000	.....	.....	9,000
Shell Pet. Corp.	.....	5,000	.....	.....	40,000	.....	25,000	70,000
Sinclair O. & G. Co.	123,000	70,000	11,000	.....	46,000	.....	.....	250,000
Skelly Oil Co.	.....	.....	45,000	.....	.....	8,000	.....	53,000
Victor Gasoline Co...	4,500	20,000	20,000	30,000	.....	.....	.....	74,500
Total	304,400	169,600	142,500	218,400	159,100	60,500	98,000	1,152,500
Prod. Aug. 23...	282,100	188,000	141,900	227,200	177,000	65,500	99,000	1,180,700

*Includes production of Indian Territory Illuminating Oil Co. †Includes 50,000 production in Searight Pool.

A PRACTICAL SUGGESTION

STEAM SEPARATOR

As the natural gasoline industry progresses, details are given more attention, minute refinements added and a high degree of efficiency in operation almost made compulsory. In this connection attention is being given to the better handling of steam and a study is being made of other industries where there is efficient utilization of steam.



Let us consider the effect of various quantities of moisture in steam at various pressures before expansion to 30-pound gauge pressure. Tests show that unless the steam on reaching the evaporator is passed through a good steam separator it will contain about 3 per cent moisture, and if it is passed through a separator it will contain less than one-half of a per cent. The moisture in steam also pulls down the temperature and in many cases the still is cooled off materially and this is due to moisture and not to the latent heat of evaporation. The table given below shows the effects of moisture on the temperature.

TEMPERATURE OF STEAM AFTER EXPANSION TO 30 POUNDS IN DEGREES FAHRENHEIT

Initial steam pressure pounds gauge	Per cent moisture before expansion 0	1	2	3
125	316	299	282	274
150	319	304	287	274
200	326	310	293	279

When the moisture in the steam carries some impurities the effect especially on turbines is exceedingly harmful. They erode the turbine blades and change the very carefully calculated curvatures to other shapes not so efficient.

To overcome these effects, steam separators are used and are essentially very highly efficient baffled scrubbers, depending for purification on the following principles: Centrifugal separation, gravity separation and expansion.

A sketch of the baffles in one of the commercial separators is shown. The steam passes through several rows of gutter-shaped baffles. They break the steam into long ribbons 220 feet long to make a cubic foot of steam. Thus by being divided into ribbons, an enormously large steam surface is exposed to the scrubbing baffles at low velocity and the tiny particles of moisture scrubbed out of the steam.

Practical suggestions by those connected with the construction and operation of natural gasoline plants are invited. Payment will be made as soon as suggestions are accepted. Address all communications to the Natural Gasoline Department, The Oil and Gas Journal, Tulsa.

Government Report Reviews Important Changes Under Way

The natural gasoline industry is constantly looking for new markets and over the past year has been successful in creating new uses and enlarging the old according to a report of the Bureau of Mines which has just been released. The report covers the activities for 1928 and points to some of the present day trends.

Although the natural gasoline manufacturers were favored by an increase in the demand for their product by refiners in 1928, they slackened little, if at all, their attempts to create new markets. The trend of modern refinery practice has been to get away from blending, which with the recent growth of vapor-phase cracking has given the natural gasoline manufacturer no chance for overconfidence. Although no data are available on the use of the lighter ends of natural gasoline for heating or in the chemical industry, it is probable that such consumption grew materially in 1928. A comparatively new development in the marketing of natural gasoline has occurred in the export trade.

The use of natural gasoline as a blending material in the manufacture of the so-called export gasolines has been popular for some time, but such blending has usually been done in this country; only recently has the practice of shipping natural gasoline in bulk by tankers to foreign countries assumed importance. The demand for natural gasoline has been growing rapidly in the aviation industry and, in the absence of specific data on consumption, may be assumed to be increasing in proportion to the growth in number of airplanes.

The influence of the flush production of 1927 and the consequent building of natural gasoline plants to utilize the natural gas produced with the crude spent itself in 1928, with the result that fewer plants were completed and the total production for the country resumed its decline. The total number of operators and plants for 1928 were 369 and 1,078, respectively, as compared with 394 and 1,119 the preceding year. Oklahoma continued to lead in the number of plants, having nearly twice the number of its nearest rival, Texas.

Yields Increase

The average yield of natural gasoline per 1,000 cubic feet of gas treated for the industry as a whole amounted to 1.23 gallons in 1928, as compared with 1.22 in 1927. This increase, while apparently negligible, is really of considerable import when the enormous amounts of gas treated are considered. The average yield in Oklahoma, the leading producing State, was 2.2 gallons in 1928 as compared with 2.1 gallons in 1927. The yield in California was unchanged, but that in Texas fell from 1.2 to 1.0 gallons. This decrease probably resulted from the operation of a number of new plants built to run on large quantities of lean gas. In general, the Eastern States have the lowest yields, but Illinois led all the states in 1928, with a recovery of 2.6 gallons.

The trend toward the absorption method of producing natural gasoline was continued in 1928, when a total of 1,563,929,000 gallons, or 86 per cent of the total, was produced by this method as contrasted with 226,060,000 gallons, or 13 per cent, for the straight compression method and 24,045,000 gallons, or 1 per cent, for the charcoal process. The absorption figures, however, include the production from methods that combine the compression or charcoal methods with absorption. The number of compression

(Continued on Page 135)

Brief Items for Petroleum Refiners

Yields of 85 Per Cent Gasoline in California Crude

A yield of 85 per cent gasoline by natural distillation is secured from the crude oil of the No. 1 Elliott, the discovery well of the Kettleman Hills Field of California. A sample of the crude oil furnished by the Milham Exploration Co., owners of the discovery well was tested last week at the Tulsa laboratories of the Tulsa Laboratories, Inc.

The laboratory test showed a gravity of 57.9 A.P.I., color Saybolt No. 1 with an initial boiling point of 90 degrees Fahrenheit. A summary of the Hempel distillation showed a gasoline yield of 84.9 per cent, kerosene 11.1 per cent with a distillate residue of 2.6 per cent.

The results of the laboratory test are summarized as follows:

Hempel Distillation Gravity A.P.I. 57.9, Color Saybolt No. 1, I.B.P. 90 Degrees

Temp. Deg. F.	Fahrenheit Fraction %	Fraction gravity	Cumulative %
Up to 122	2.5	86+	2.5
122—167	12.0	80.3	14.5
167—212	18.8	68.8	33.3
212—267	22.6	...	55.9
267—302	12.5	53.1	68.4
302—347	10.0	48.8	78.4
347—392	6.5	45.5	84.9
392—437	4.7	42.9	89.6
437—482	4.0	39.8	93.6
482—527	2.4	36.7	96.0
Residue	2.6	33.0	98.6
Loss	1.4		100.0

Summary

84.9% Gasoline 61.1 A.P.I., Doctor Sweet.
11.1% Kerosene 40.5 A.P.I.
2.6% Residue 33.0 A.P.I.
1.4% Loss

100.0%

Remarks. This is a "mixed base" oil. A small sample of the residue examined in a test tube, appeared to have a Pour Test from 1o to 20 degrees Fahrenheit. A small amount of wax was present.

There has been a great deal of interest among producers and refiners regarding the development of the Kettleman Hills area. At present the development of the field is being held back by agreement of the operators and the federal government which has substantial holdings in the field. The field is believed to have a large potential exceeding that of any area that has yet been developed in California.

The discovery well was completed about a year ago with an initial production of 3,700 bbls. daily. In addition to the crude oil production the well is pro-

(Continued on Page 135)

NEW EMPIRE REFINERY TO START JANUARY 1

Crude oil will be delivered by pipe line to the new refinery of the Empire Oil & Refining Co. now under construction at East Chicago, Ind., not later than November 15. The crude will be run to storage until the first of the year when it is expected that the plant will be completed and ready to operate. The plant will have a rated capacity of 15,000 bbls. daily.

The crude will be delivered from the Mid-Continent Field in the new line of the Texas-Empire Pipe Line Co. The line has been completed as far as Lockport, Ill., where The Texas Company has a refinery in operation. Large additions to the refinery have been made over the past year and it is understood that starting the first of the year the refinery will be operated on a basis of 15,000 bbls. daily.

The pipe line company has also completed a pipe line connection to the Indian Refining Co. at Lawrenceville, Ill. Crude oil coming from the Seminole Field in Oklahoma is now being delivered to the Indian refinery.

DIXIE JOBBERS TO HAVE NEW BOARD OF CONTROL

CHICAGO, Oct. 12.—A meeting of delegates from the Dixie Jobbers organizations in the eight states in which the plan is in operation, was held at the Congress Hotel today. The Dixie Board of Control was organized which is to have supervision of the policies of the organization and strive for uniform advertising and other activities. The Board of Control is to consist of at least one member from each state.

Paul Kempf of the Staebler Oil Co., of Ann Arbor, Mich., was chosen permanent secretary and it is probable that he will have his permanent office there. Bert Rentmeester of the Oconomowoc Oil Co., Oconomowoc, Wis., has been acting as secretary pending the choice of a permanent official for that office. The chief subject of discussion was stated to be uniformity of advertising through which the various member companies in each state would identify themselves to the tourists. It was understood that the matter of group buying by states was to come up for action at this meeting but nothing was done it was stated after the session. The Board of Control will meet at least four times each year.

ARROW OIL ADDS OUTLETS

CHICAGO, Oct. 12.—The Arrow Oil Co., of Davenport, Iowa, is adding new outlets in Monmouth and Galesburg, Ill., and at Cedar Rapids, Iowa.

NEW YORK UNION STRIKE HOLDS BACK DELIVERIES

NEW YORK, Oct. 14.—The strike of the 1,000 gasoline and fuel oil truck drivers in New York City assumes serious proportions as deadlock threatens with large companies and unions increasing strength. Filling stations throughout the city are forced to turn away motorists and 1,500 taxicabs are laid up.

The strike now threatens to spread through the suburbs. The Standard Oil Co. of New York and other large companies are using strikebreakers guarded by police. Considerable violence is reported.

The union head today announces an agreement with Ace Petroleum Corp., Atlantic Basin Oil Corp., Crystal Oil Corp., and Parker Oil Corp. These companies are to pay the higher wages demanded. Peter H. Prunty, assistant general manager of Standard of New York, declares "under no conditions will the Standard Oil Co. of New York recognize the union."

START TWO PLANTS

B. V. Hole of Newcastle, Wyo., and associates have started construction of a small refinery at Pedro, Wyo. The plant when completed will have a capacity of 500 bbls. daily. The owners expect to secure lubricating oil stocks and other products. The Hole interests have shallow proluction near the plant with additional wells drilling.

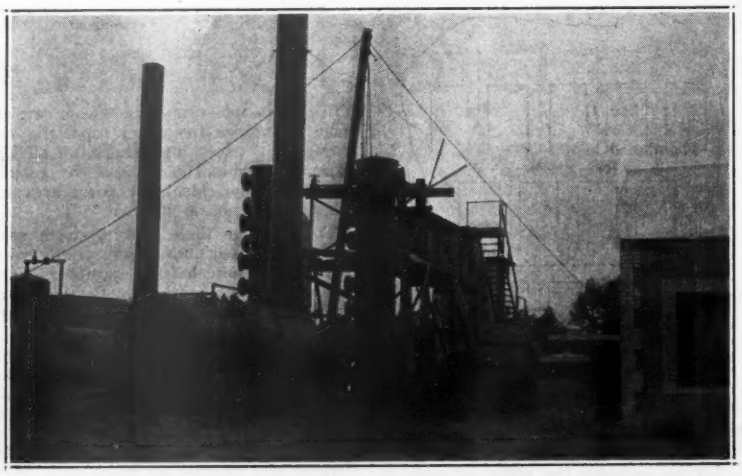
USE TWO OIL FIELD BOILERS AS STILLS AT MUSKEGON REFINERY

The Henry H. Cross Co. of Chicago is using two oil field boilers as stills in a temporary skimming plant which the company has completed at Muskegon, Mich. The plant was built to take care of Dundee sand crude oil obtainable in the Muskegon area.

The two boilers—one of which is 100 horsepower and the other 50 horsepower—are operated continuously. The crude oil coming from a heat exchanger in which the crude is preheated by fuel oil residuum is charged to the first boiler in the same manner that water is introduced into the boiler when steam is generated. After passing through the one boiler the crude passes to the second boiler in the same manner that two shell stills are operated continuously.

After being brought to the desired temperature the crude is discharged in a combination evaporator and bubble tower. This tower is connected to a second tower in which the final fractionation takes place. The plant is designed to remove the gasoline cut and also a large gas oil cut with a fuel oil residuum. The plant is said to have a capacity of 1,500 bbls. daily taking 60 per cent of the crude oil charge overhead.

A 100-horsepower boiler of the oil field type is also used in securing steam for the plant operation. The Cross Co. previously had secured satisfactory results from boilers used as stills in the Smackover area of Arkansas.



View of skimming plant of Henry H. Cross Co. at Muskegon, Mich. Boilers in foreground used as stills.

MARKETING CONGRESS AT CHICAGO OCTOBER 21-23

CHICAGO, Oct. 12—The Annual Marketing Congress with exhibits under the auspices of the Independent Oil Men of America will be held at the Stevens Hotel, Chicago, October 21, 22 and 23. The commencement of the meeting on Monday is peculiar to this organization but the action was taken after a referendum had been conducted and the members had indicated their approval of this change from the usual manner of commencing a convention on Tuesday.

The meetings and proceedings are open to all oil men. The only requirement is that the oil men register. The idea of the management of the Independent Oil Men of America, is to make this a real congress of the independent oil industry and with this end in view members have been requested to bring with them as many of their friends in the industry as possible.

The subjects for discussion at the meetings have been selected by the management, all of whom are active independent oil men, and apply to present problems confronting the independent branch of the industry. The speakers are men with something worth while to hear. There will be the usual entertainment including the dinner-dance and entertainment at noon lunches. Special entertainments have been provided for the ladies including a bridge party with handsome prizes. A large number of ladies have already signified their intention to be present.

Private Room Assets

The plan of the exhibits is that of the private room system. The fifth floor of the Stevens Hotel has been reserved and each exhibitor will make his display in his own room. This plan was adopted at the last year's annual Congress and it is repeated on the approval of the exhibitors. Advance reservations and contracts actually signed indicate a list of exhibitors of 50, several of whom have never had exhibits at the meetings of the organization in previous years.

PHILLIPS BUYS STATIONS

The Phillips Petroleum Co. continued to expand its marketing facilities during the past week when it completed the purchase of 15 bulk stations and 61 service stations from the Hancock Oil Co. of Minneapolis, Minn. The Hancock company is a veteran jobbing concern and formerly was affiliated with the Yale Oil Corp., which operates refineries at Yale, Okla., and Miles City, Mont.

Last year the Phillips company entered the Twin City market when it purchased the stations of the Benzo Gas Motor Fuel Co. The company now has 82 service stations and four bulk stations in St. Paul and Minneapolis and also has stations in 22 other towns and cities of Minnesota and Wisconsin. The latest report of the company shows a total of 500 stations.

JOINS RICHARDSON COMPANY

H. L. McMenemy, who for the past 10 years has been chief chemist and plant research chemist of the Deepwater Oil Refineries at Houston, Tex., has been appointed night superintendent of the Richardson Refining Co.'s new refinery at Big Spring, Tex.

The Richardson Refining Co. has recently started operating two Jenkins cracking units. In addition to these stills the plant operates a 10,000-bbl. crude pipe still and a rerun still.

PRICE CUT AFFECTS MARKET IN THE EAST

(Continued from Page 124)

fined oils at Atlantic Coast ports for the week ended October 5 totaled 371,000 bbls., a daily average of 53,000 bbls., compared with 392,000 bbls., a daily average of 56,000 bbls., for the previous week, and a daily average of 74,167 bbls. for the month of September. Details follow:

(Barrels of 42 gallons)

Baltimore	78,000
New York	213,000
Philadelphia	80,000
Total	371,000
Daily average	53,000

There were no receipts of California oils at Gulf Coast ports during the week.

Distribution of total California oil receipts at Atlantic Coast ports was as follows:

Gasoline	233,000
Gas oil	60,000
Fuel oil	78,000
Total	371,000

LITTLE CHANGE IN THE CHICAGO MARKET

(Continued from Page 125)

and cannot take in all that is coming to them. However, they are paying demurrage rather than turn desirable oil back. For some reason or another there have been numerous rejections of cars, something unusual on a rising market. The rejections frequently are based on inferior material, high viscosities being a common complaint.

Refiners are holding former prices and in some cases they have advanced their quotations. One refiner who started the season with a quotation of 50 cents for an 18-22 fuel oil with 2 per cent sulphur and a zero pour test, is today asking 67½ cents for the same grade of oil. There are three refining companies which are offering either 18-20 or a 16-20 gravity fuel oil with an ordinary cold test, the oils being low in sulphur but usually rather high viscosity, at the price of 60 cents a barrel. In at least one case the viscosity was so high that they were obliged to reduce the original asking price from 65 to 60 cents. Many of the tank car distributors have oil due them bought at low prices which they can sell at less than the present market based on immediate refining costs and they are selling this oil for the most part to their old customers at a little less than the price asked by refiners. In a general way the consumption of fuel oils is good although most of the business has been placed and the volume of new business being closed is light. Industrial users are for the most part busily employed.

High-Gravity Fuel Oils Scarce

The high-gravity fuel oils suitable for oil burner fuel in the larger sized buildings continue to be as scarce as they have ever been this season. Most of the high-gravity, zero fuels are obtained by blending distillate with the heavy residual oils from the cracking plants and this makes the chief source of supply the large refiners who for the most part have their own distribution and are holding a good share of what material they may have for their own needs. One of the most difficult articles to buy at the present moment is the 28-30 zero fuel oil and prices are being slowly but steadily advanced.

There has been no change in lubricating oils during the week. Business is reported to be a little quiet but the volume is fair.

There has been no change in the tank wagon situation and none seems to be in order right now although the reduction made along the Atlantic Seaboard has not been without effect in this section. The less favorable weather has resulted in the closing of some of the outlying stations which cannot run without the touring trade.

In the Northwest there are numerous stations which open and shut down with the tourist hotels. There is considerable selling of gasoline at less than the normal prices here in the city and in all parts of the territory but there does not seem to be any increase and as the larger companies have had the best season in their history they see no necessity for doing more than meet local price cuts when they are forced to do so by loss of gallonage. There is more or less of a movement here to use a gasoline of higher gravity as the base for Ethyl Gasoline which will give added starting value to the motor fuel. Some of the refiners of antiknock gasoline have begun to use the Ethyl fluid and combine their own trade name for antiknock gasoline with the trade name Ethyl.

KANSAS FIELDS

(Continued from Page 44)

Culloch's No. 1 Lewis, SW cor. NE, Section 25-27-8, is spudding.

Gordon & Staats' No. 1 Blakely, SW cor. SE SE, Section 3-22-11, has been abandoned at 2,010 feet. Loy, Cory & Simmons' No. 1 Lefebure, NE cor., Section 14-23-11, is dry and abandoned at 1,991 feet. Empire Oil & Refining Co.'s No. 3 Patterson "A," NE cor. NW SW, Section 36-23-11, made a 20-bbl. well in sand 1,789-97 feet. Christy & McCulloch's No. 1 Lewis, NW cor. NE SW, Section 25-27-8, has been completed for 3,000,000 feet of gas in sand 1,120-27 feet.

Harvey County

E. W. Marland, Inc. is erecting the rig for No. 1 Chambers, NE cor. SE NE, Section 8-24-2. Roth & Faurot and others' No. 1 Nebergall, NW cor., Section 26-22-1w, is dry and abandoned at 3,505 feet. Lee Payne and others' No. 1 Ady, NE cor. NW SE, Section 16-24-1, has been abandoned at 3,460 feet.

Kiowa County

British American Oil & Gas Co.'s No 1 Woodward, NE cor., Section 35-27-17w, is dry and abandoned at 5,040 feet.

Lyon County

Sheedy and others' No. 4 Hughes, SW cor. NW SW, Section 19-21-10, is a rig going up.

Marion County

Jim Davis and others' No. 1 Bartles, SE cor. NE, Section 1-19-1, has been abandoned at 3,320 feet. Davis and others' No. 3 Rample, SE cor. SW NW, Section 7-19-3, is a dry hole at 2,905 feet.

McPherson County

Shell Petroleum Corp. made location for No. 1 Miller, SW cor. SE, Section 1-20-2w. The cellar has been dug for No. 1 Holmes, NE cor. NW, Section 12-20-2w. Kansan Oil Corp. is building the rig for No. 1 Otto, SW cor. NW, Section 21-20-1w. E. W. Marland Inc.'s No. 1 Swenson, NE cor. SW NE, Section 36-18-4w, has been abandoned at 3,729 feet. Shell Petroleum Corp.'s No. 2 Ritz, SE cor. SW, Section 1-20-2w, made 2,210 bbls. from chat 2,976-81 feet.

Morris County

Arrow Oil & Gas Co.'s No. 2 Southwick, NE cor. NW, Section 14-16-7, has been abandoned at 1,465 feet.

Rice County

Producers & Refiners Corp. made location for No. 1 Thompson, SE cor. NW, Section 21-20-10w.

Russell County

Keys Petroleum Co. Inc. made location for No. 11 Mermas, NE cor. NW SW, Section 33-13-15w. Burbank and others' No. 11 J. Mermas, NE cor. SW NE, Section 32-13-15w, made 100 bbls. in sand 3,047-55 feet. Mid-West Exploration Co.'s No. 4 Baxter, NE cor. NW SW, Section 32-13-15w, was completed for 100 bbls. in sand 3,329-34 feet.

Sedgwick County

G. L. Ramsey and others' No. 2 Evans, SW cor., Section 2-26-1w, is a rig. Shell Petroleum Corp.'s No. 1 Erdwien, SW cor., Section 11-26-2 is rigging up. No. 2 Borg, NW cor. SW SW, Section 14-26-2, is rigging up. Plains Oil Co.'s No. 1 Corn, NW cor. SE SW, Section 15-26-2, is drilling deeper at 2,960 feet. Shell Petroleum Corp.'s No. 3 Fischer, SW cor. SE SE, Section 15-26-2, is a rig under construction. T. C. Johnson is building the rig for No. 1 Peachey, SE cor. SW SW, Section 2-27-1w. Moore and others' No. 1 Schulte, NE cor. SE NW, Section 18-28-1w, is a cellar. L. H. Wentz made location for No. 1 Moore, SE cor. NW, Section 17-28-1.

Shell Petroleum Corp.'s No. 1 Lygrisse "C", NW cor. NE NW, Section 22-26-2, is dry and abandoned at 3,249 feet. No. 1 Hamant, NW cor. NE NE, Section 22-26-2, made 487 bbls. in sand 3,301-02 feet. No. 1 Robbins, SW cor. NW SW, Section 21-28-1, was completed for 242 bbls. in sand 3,092-3,102 feet. Lario Oil & Gas Co.'s No. 1 Teachant, NE cor. SW, Section 27-29-1w, has been abandoned at 3,860 feet.

Stevens County

G. F. Mangle is erecting the rig for No. 1 Younger, C SE NW, Section 24-32-39w. Argus Gas Co. made location for No. 1 Hobble, C SE, Section 17-32-37w.

Sumner County

Dickey and Carter Oil Co.'s No. 1 Kratz, SW cor. NW, Section 26-34-2, has been completed for 140 bbls. in sand 3,486-96 feet.

EXPOSITION BREAKS PREVIOUS RECORDS

(Continued from Page 31)

one or more men prominent in the oil industry in their home country.

Prize Winners at Oil Show

Winners in the contest staged by the Welding Engineering Co. and the Paige Steel & Wire Co., in connection with the sixth International Petroleum Exposition and Congress, were announced at the close of the oil show.

Olin J. Adams, of the Tidal Refining Co., Drumright, Okla., was the first place winner and will receive a complete Type X Meco welding outfit. W. B. Sanders, Weleetka, Okla., receives a Type X welding torch and tips. W. A. Kenyon, of the Empire Refining Co., Okmulgee, Okla., is entitled to a Meco motor seat oxygen regulator. E. W. Barker, of the Indian Territory Illuminating Oil Co., Wynona, Okla., receives a Schick automatic razor, and Leslie Scott, Rogers, Ark., receives a set of Weed chains.

Others will receive the awards on failure of any of the above to report. In the order drawn the additional names are, S. L. Spence, Tulsa Boiler & Machine Co.; J. B. McCormick, Skelly Oil Co.; Frank A. Mills, Holt Gypsy Oil Co., Seminole; Dennis Algeo, Sinclair Oil & Gas Co., Hominy, Okla.; W. R. Crooh, Motor Inn garage, Cleveland, Okla.; R. R. Russell, The Texas Company, Kiefer, Okla., and H. Ewing, Wertzberger Derrick Co., Red Fork, Okla.

85 PER CENT GASOLINE IN CALIFORNIA CRUDE

(Continued from Page 134)

ducing about 80,000,000 feet of gas daily. The gasoline content is approximately one gallon per thousand cubic feet. At present in addition to the crude oil about 850 bbls. of natural gasoline are secured from the gas.

The discovery well has a total depth of 7,236 feet. However the drilling of additional wells since that time indicates that part of the oil may be coming from formations as shallow as 6,300 feet.

The Kettleman Hills crude is of particular interest to California refiners due to the fact that in the past they have been compelled to operate with crude oils of relatively low gravity. The development procedure which has been approved by the operators seeks to restrict the completion of additional wells until such time as the crude oil is needed to supply California refinery requirements.

GOVERNMENT REPORT REVIEWS CHANGES

(Continued from Page 133)

plants continued to decline; only 446 were in operation in 1928 as compared with 490 in 1927. This decline as in former years, was the result of the dismantling of small plants, principally in the eastern states, which have proven uneconomic at the prices prevailing over the past several years. The number of absorption plants increased from 599 in 1927 to 604 in 1928. Practically all of the new plants were in the Seminole area and in Panhandle and North Central Texas. The number of charcoal plants declined from 30 to 28 but the total output continued its steady annual increase.

Los Angeles County

During 1928 natural gasoline was produced in 15 states and 151 counties, as well as in Alaska. Many counties have only one plant and their production is relatively small but a few counties near flush-producing areas have expanded rapidly in recent years. Los Angeles County, California, was again the leading producer in 1928. This county, which includes such fields as Santa Fe Springs, Long Beach and Seal Beach, produced 350,878,000 gallons in 1928, valued at $30,612,000. Seminole County, Oklahoma, ranked second, with an output of 266,742,000 gallons, valued at $17,615,000, a gain over 1927 of 62 per cent in output and 105 per cent in value. Osage County, Oklahoma, was again the third leading county in quantity produced, followed in order by Creek, Okla., and Orange and Ventura, Calif.

Stocks of natural gasoline held by the natural gasoline manufacturers at their plants declined from 32,266,000 gallons on January 1, 1928, to 27,161,000 gallons on December 31. This decline reflected in some measure the gain in prosperity registered by the natural gasoline industry in 1928. Oklahoma showed the largest decline in natural gasoline stocks and, with Texas, accounts for nearly all of the total for the country. In addition, the manufacturers held 1,224,000 gallons of blended gasoline on December 31, 1928, a slight decrease from the first of the year.

Pipe Line Shipments

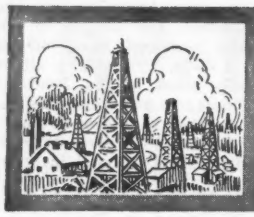
The practice of transporting natural gasoline by means of crude petroleum pipe lines, which has grown steadily in recent years, fell off materially in 1928. The total amount of natural gasoline turned into pipe lines either in the raw state or mixed with crude or unfinished oils in 1928, amounted to 106,616,000 gallons, as compared with 152,679,000 gallons in 1927. The chief reason for this decline was that the amount of natural gasoline turned into pipe lines in California fell off 43 per cent from 1927, although this State accounted for 75 per cent of the total for the country in 1928. It is the only state in which this practice really flourishes. The amount of natural gasoline turned into pipe lines in the Mid-Continent area increased considerably in 1928, particularly in the Panhandle district where natural gasoline is often used to facilitate the movement of the viscous crude of that area through the pipe lines.

SEMINOLE PRODUCTION SHOWS DECLINE

(Continued from Page 133)

crude production curtailment. There were several additions made to the operating plants and two new plants are being built and will be ready to operate by the close of this month. One of the new plants is located in the Earlsboro Pool in Section 17. This will be a 20,000-gallon plant and is being build by the Skelly Oil Co. After completion of this plant, that company will have close to 100,000 gallons capacity in the field and when this plant is run at capacity the production for the company will approximate 70,000 gallons daily. The other new plant is that of the Amerada Petroleum Corp. which is being built in Section 17-9-6. This will be a 10,000-gallon plant, which when operated at capacity, will give that company a daily production in the Seminole Field of approximately 60,000 gallons.

The Victor Gasoline Co. is adding three more units to its East Little River plant which, when ready to operate November 1, will add 10,00 gallons to its production.



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

OKLAHOMA (Group 3)—	Oct. 15		Oct. 8		Oct. 1	
50-52 450 endpoint	.07	.07½	.07	.07½	.07	.07½
56-58 450 endpoint	.06¾	.07¼	.06¾	.07¼	.06⅞	.07¼
*58-60 437 endpoint (U. S. Motor)	.0775		.0773		.0771	
*60-62 437 endpoint	†.07½	.08	.08		.0787	
*60-62 400 endpoint	.08		.08		.08	
*64-66 375 endpoint	.0837		.0831		.0843	
68-70 360 endpoint	.07¾	.08¼	.07¾	.08¼	.08	.08¼
64-66 437 endpoint (blend)	.07¼		.07¼		.07¼	

*Weighted average prices October 14, 7 and September 30, as reported by representative refiners. Sales to jobbers only. †No sales reported.

NORTH TEXAS—						
56-58 450 endpoint	.06¾	.07	.06¾	.07¼	.06¾	.07¼
58-60 460 endpoint	.06⅝	.06¾	.06⅝	.06¾	.06¼	
58-60 437 endpoint (U. S. Motor)	.06¾	.07¼	.06¾	.07¼	.07	.07¼
60-62 400 endpoint	.07⅛	.07¼	.07	.07¼	.07⅛	.07¼
64-66 390 endpoint	.07⅜	.07½	.07¼	.07½	.07¼	.07½
64-66 375 endpoint	.07⅝	.07¾	.07½	.07¾	.07½	.07¾
68-70 360 endpoint	.07¾	.08	.08	.08¼	.08	.08¼
64-66 437 endpoint (blend)	.07¼	.07½	.07¼	.07½	.07¼	.07½
*NORTH LOUISIANA—						
58-60 437 endpoint (U. S. Motor)	.07¼	.07¾	.07½	.07¾	.07½	.07¾
*ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.07¼	.07¾	.07½	.07¾	.07½	.07¾
PENNSYLVANIA—						
52-54 Naphtha	.07¾	.08	.07¾	.08	.08	.08¼
54-56 Naphtha	.07¾	.08	.07¾	.08	.08¼	.08½
58-60 Gasoline	.08½	.09	.08½	.09	.08½	.08⅝
60 Gasoline	.08¾	.09	.08¾	.09	.08½	.08¾
62 Gasoline	.08⅞	.09	.08⅞	.09	.08¾	.09
64 Gasoline	.09¼	.09½	.09¼	.09½	.09¼	.09½
68-70 350 endpoint gasoline	.10¼	.10½	.10¼	.10½	.10¼	.10½
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.09	.10	.09	.10	.09	.10
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.07	.07¼	.07¼		.07	.07½
56-58 450 endpoint	.06¾	.07¼	.07	.07¼	.07	.07¼
58-60 437 endpoint (U. S. Motor)	.06⅞	.07¼	.07	.07¼	.07⅛	.07¼
60-62 400 endpoint	.07⅜	.07¾	.07½	.07¾	.07½	.07¾
64-66 375 endpoint	.07⅝	.08	.07¾	.08⅛	.07⅞	.08⅛
68-70 360 endpoint	.08	.08¼	.08⅛	.08¼	.08	.08¼
64-66 437 endpoint (blend)	.07¼	.07⅜	.07¼	.07⅜	.07¼	.07½
GULF COAST (Export)—						
58-60 (U. S. Motor)	.08½		.08½		.08½	
60-62 400 endpoint	.09½		.09½		.09½	
61-63 390 endpoint	.09¾		.09¾		.09¾	
64-66 375 endpoint	.10		.10		.10	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

NATURAL GASOLINE

OKLAHOMA (Group 3)—	Oct. 15		Oct. 8		Oct. 1	
Grade A, 72-79.9, 375 e.p., rec. 90%	.06½	.06⅝	.06½	.06⅝	.06½	.06⅝
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06½	.06⅝	.06½	.06⅞	.06½	.06⅝
Grade B, 76-83.9, 375 e.p., rec. 85%	.06⅜	.06½	.06⅜		.06½	
Grade BB, 84-92, 375 e.p., rec. 85%	.06⅜	.06½	.06⅜		.06½	
Grade C, 80-90, 375 e.p., rec. 78%	.06⅜	.06½	.06⅜		.06½	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06½	.06⅝	.06½	.06⅝	.06½	.06⅝
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06½	.06⅝	.06½	.06⅞	.06½	.06⅝
Grade B, 76-83.9, 375 e.p., rec. 85%	.06⅜	.06½	.06⅜		.06½	
Grade BB, 84-92, 375 e.p., rec. 85%	.06⅜	.06½	.06⅜		.06½	
Grade C, 80-90, 375 e.p., rec. 78%	.06⅜	.06½	.06⅜		.06½	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.06¾	.07	.06¾	.07	.06¾	.07
Grade BB, 84-92, 375 e.p., rec. 85%	.06¾		.06¾		.06¾	
Grade C, 80-90, 375 e.p., rec. 78%	.06¾		.06¾		.06¾	
CALIFORNIA—						
75-78 375-390 endpoint	.07¾	.08¼	.08¼	.08¾	.08¼	.08¾
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅝		.06½	.06⅝	.06⅝	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06⅝		.06½	.06⅝	.06⅝	
Grade B, 76-83.9, 375 e.p., rec. 85%	.06½		.06⅜	.06½	.06½	
Grade BB, 84-92, 375 e.p., rec. 85%	.06½		.06⅜	.06½	.06½	
Grade C, 80-90, 375 e.p., rec. 78%	.06½		.06⅜	.06½	.06½	

BURNING OIL

OKLAHOMA (Group 3)—	Oct. 15		Oct. 8		Oct. 1	
41-43 water white kerosene	.04¾	.05¼	.04¾	.05½	.04¾	.05½
42-44 water white kerosene	.05¼	.05¾	.05¼	.05¾	.05¼	.05½
*NORTH LOUISIANA—						
41-43 water white kerosene	.05½		.05½	.05¾	.05½	.05¾
NORTH TEXAS—						
41-43 water white kerosene	.04½	.04¾	.04½	.04¾	.04½	.04¾
40-42 water white kerosene	.04⅜	.04⅝	.04⅜	.04⅝	.04⅜	.04⅝
*ARKANSAS—						
41-43 water white kerosene	.05½		.05½	.05¾	.05½	.05¾
PENNSYLVANIA—						
43 Kerosene prime white	.06¼	.06½	.06⅛	.06¼	.05½	.05¾
45 Kerosene water white	.06½	.06¾	.06¼	.06½	.05¾	.06
46 Kerosene water white	.06¾	.07	.06½	.06¾	.06	.06¼
47 Kerosene water white	.07	.07¼	.06¾	.07	.06¼	.06¾
300 Mineral Seal	.06¾	.07	.06¾	.07	.06½	.07
CALIFORNIA—						
38-40 water white Kero. (high-burning test)	.05	.05½	.05	.05½	.05	.05½
Engine distillate, 43-44, 445 endpoint	.07¾	.08¼	.08	.08¾	.08	.08¾
Engine distillate, 42-44, 480 endpoint	.07½	.08¼	.07½	.08¼	.07½	.08¼
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.04¾	.05¼	.04⅞	.05¼	.04⅞	.05¼
42-44 water white kerosene	.05¼	.05½	.05¼	.05½	.05⅜	.05¼
GULF COAST (Export)—						
41-43 prime white	.07		.07		.07	
41-43 water white	.08		.08		.08	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

OKLAHOMA (Group 3)—	Oct. 15		Oct. 8		Oct. 1	
Below 18 Fuel Oil, per bbl.	.60	.62½	.55	.60	.52½	.57½
18-22 Fuel Oil, per bbl.	.62½	.67½	.60	.65	.60	.65
20-22 Fuel Oil, per bbl.	.65	.70	.62½	.65	.62½	.65
22-26 Fuel Oil, per bbl.	.75	.80	.75	.80	.75	.80
24-26 Fuel Oil, per bbl.	.80	.85	.80	.85	.80	.82½
26-30 Fuel Oil, per bbl.	.90	1.00	.95	1.00	.90	.95
28-30 Fuel Oil, per bbl. (industrial)	1.05	1.15	1.05	1.10	.95	1.10
32-36 Gas Oil (industrial)	.03	.03⅛	.02¾	.03	.02¾	.02⅞
32-36 Gas Oil (straw color)	.03⅛	.03¼	.03	.03¼	.02⅞	.03⅛
36-38 Distillate	.03⅞	.04	.03¾	.04	.03¾	.03⅞
38-40 Straw Distillate	.04	.04¼	.03⅞	.04⅛	.03⅞	.04
NORTH TEXAS—						
Below 20 Fuel Oil	.60	.65	.60	.65	.60	.65
24-26 Fuel Oil, per bbl.	.70	.75	.70	.75	.70	.75
32-36 Gas Oil (straw)	.02⅞	.03⅛	.02¾	.03	.02⅝	.02¾
38-40 Straw Distillate	.03⅞	.04⅛	.03¾	.04	.03⅜	.03⅞
*NORTH LOUISIANA—						
18-20 Fuel Oil, per bbl.	.80	.85	.80	.85	.75	.80
30-32 Gas Oil	.03¼	.03½	.03¼	.03½	.03¼	.03½
*ARKANSAS—						
33-36 Distillate	.03½	.03¾	.03½	.03¾	.03½	.03¾
30-32 Gas Oil	.03	.03¼	.03	.03¼	.03	.03¼
16-22 Refinery Fuel Oil, per bbl.	.70	.75	.70	.75	.70	.75
GULF COAST (South Texas)—						
Gas Oil	.04	.04¼	.04	.04¼	.04	.04¼
Bunker C Fuel (cargo lots), per bbl.	.75		.75		.75	.80
Bunker C Fuel (small lots)	1.00	1.05	1.00	1.05	1.00	1.05
PENNSYLVANIA—						
30-34 Fuel Oil	.04⅜	.04½	.04¼	.04½	.04	.04¼
36-40 Fuel Oil	.04⅜	.04¾	.04½	.04⅜	.04¼	.04½
CALIFORNIA—						
33-36 Distillate	.03½	.04	.03½	.04	.03½	.04
26-32 Distillate	.02	.02½	.02½	.03	.02½	.03
15-20 Fuel Oil, Bunker (at tide water)	.65	.85	.65	.85	.65	.85
15-20 Fuel Oil (cargo lots), per bbl.	.70	.85	.70	.85	.70	.85
27 plus Diesel, per bbl.	.90	1.05	.90	1.05	.90	1.05
CHICAGO DISTRICT (Based on Group 3)—						
22-26 Fuel Oil, per bbl.	.80	.85	.77½	.82½	.70	.77½
18-22 Fuel Oil, per bbl.	.65	.70	.65	.70	.65	.70
28-30 Fuel Oil	1.10	1.15	1.10	1.15	1.05	1.15
32-36 Gas Oil (zero)	.03⅛	.03⅞	.02⅞	.03⅛	.02⅞	.03⅛
32-36 Gas Oil (industrial)	.02⅞	.03⅛	.02¾	.03	.02¾	.03
36-38 Distillate	.03¾	.03⅞	.03¾	.04	.03¾	.03⅞
38-40 Straw Distillate	.04		.03⅞	.04⅛	.03⅞	.04⅛

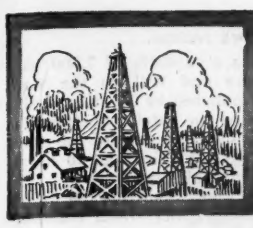
*Louisiana, Arkansas, Mississippi and East Texas delivery.

LUBRICATING OIL AND WAX

OKLAHOMA (Group 3)—	Oct. 15		Oct. 8		Oct. 1	
100 vis., 2 color, 20-25 cold test	.06¾	.07	.06¾	.07	.06¾	.07
100 vis., 3 color, 20-25 cold test	.05¾	.06	.05¾	.06	.05¾	.06
150 vis., 3 color, 20-25 cold test	.07¾	.08	.07¾	.08	.07¾	.08
150 vis., 4 color, 20-25 cold test	.07½	.07¾	.07½	.07¾	.07½	.07¾
180 vis., 3 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
180 vis., 5 color, 23-28 cold test	.08½	.08¾	.08½	.08¾	.08½	.08¾
200 vis., 3 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
200 vis., 4 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
200 vis., 5 color, 23-28 cold test	.08¾	.09	.08¾	.09	.08¾	.09
240 vis., 3 color, 25-30 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
240 vis., 4 color, 25-30 cold test	.12¼	.12½	.12¼	.12½	.12¼	.12½
240 vis., 5 color, 25-30 cold test	.11¾	.12	.11¾	.12	.11¾	.12
280 vis., 5 color, 25-30 cold test	.15¾	.16	.15¾	.16	.15¾	.16
280 vis., 4 color, 25-30 cold test	.14¾	.15	.14¾	.15	.14¾	.15
280 vis., 5 color, 25-30 cold test	.13¾	.14	.13¾	.14	.13¾	.14
Cylinder Stocks:						
600, steam refined, light green	.10½	.12	.10½	.12	.11	.12
600, steam refined, dark green	.09½	.11	.09½	.11	.09½	.11
190-200 vis., D color Bright Stock	.41	.42	.41	.42	.41	.42
150-160 vis., D color Bright Stock	.37		.37		.37	
150-160 vis., E color Bright Stock	.33	.35	.33	.35	.33	.35
Waxes:						
124-126 White Crude Scale Wax	.03	.03⅛	.02⅞	.03	.02¾	.03
PENNSYLVANIA—						
34 Neutral	.07½	.07¾	.07½	.07¾	.07½	.07¾
34 Sundebloom	.07½	.07¾	.07½	.07¾	.07½	.07¾
36 Miners' Neutral	.07¼	.07½	.07¼	.07½	.07¼	.07½
150, 3 color	.15½	.16	.16½	.17	.16½	.17
180, 3 color	.21½	.22	.21½	.22	.21½	.22
200, 3 color	.24½	.25	.24½	.25	.25½	.26
220, 3 color	.28½	.29	.28½	.29	.28½	.29
600, steam refined	.25½	.26	.25½	.26	.23	.23½
635, steam refined	.28	.28½	.28	.28½	.26	.28½
650, steam refined	.29½	.30	.29½	.30	.28½	.29
600, Pennsylvania Flash	.31½	.32	.31½	.32	.30½	.31
630, Pennsylvania Flash	.36	.36½	.36	.36½	.35	.37½
600, E filtered	.33	.33½	.33	.33½	.32½	.33½
600, D filtered	.36½	.37	.36½	.37	.36	.37
Pennsylvania Bright Stock	.52	.52½	.52	.52½	.52	.53
*122-124 White Crude Scale Wax	.03¼	.03½	.03	.03¼	.02¾	.03
*124-126 White Crude Scale Wax	.03¼	.03½	.03⅛	.03⅜	.03	.03⅛

*At New York.

GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.05¾	.06½	.05¾	.06½	.05¾	.06½
No. 3 color, 200 vis., pale oil	.09	.09½	.09	.09½	.09	.09½
No. 3 color, 300 vis., pale oil	.09¾	.10¼	.09¾	.10¼	.09¾	.10¼
No. 3½ color, 500 vis., pale oil	.11½	.12	.11½	.12	.11½	.12
No. 4 color, 750 vis., pale oil	.12½	.13	.12½	.13	.12½	.13
No. 5 to 6 color, 200 vis., red oil	.08	.08½	.08	.08½	.08	.08½
No. 5 to 6 color, 300 vis., red oil	.08¾	.09¼	.08¾	.09¼	.08¾	.09¼
No. 5 to 6 color, 500 vis., red oil	.09½	.10	.09½	.10	.09½	.10



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

	Oct. 15		Oct. 8		Oct. 1	
No. 5 to 6 color, 750 vis., red oil	.11¾	.12¼	.11¾	.12¼	.11¾	.12¼
No. 2½ color, 200 vis., pale filtered	.11	.12	.11	.12	.11	.12
No. 2½ color, 300 vis., pale filtered	.12	.13	.12	.13	.12	.13
No. 2½ color, 500 vis., pale filtered	.14½	.15	.14½	.15	.14½	.15
No. 2½-3 color, 750 vis., pale filtered	.17	.19	.17	.19	.17	.19
CALIFORNIA—						
130 vis., 2½-3 color	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 2½-3 color	.11½	.11¾	.11½	.11¾	.11½	.11¾
300 vis., 3-3½ color	.13	.13½	.13	.13½	.13	.13½
350 vis., 3½-4 color	.13½	.13¾	.13½	.13¾	.13½	.13¾
400 vis., 3½-4 color	.15	.15½	.15	.15½	.15	.15½
Red Neutral:						
200 vis., 4½-5 color	.11	.11¼	.11	.11¼	.11	.11¼
300 vis., 5-6 color	.12	.12¼	.12	.12¼	.12	.12¼
400 vis., 5-6 color	.13¼	.14	.13¼	.14	.13¼	.14
500 vis., 4½-5 color	.14¼	.15½	.14¼	.15½	.14¼	.15½
500 vis., 5-6½ color	.15	.15¼	.15	.15¼	.15	.15¼
600 vis., 6½ plus color	.16	.16¼	.16	.16¼	.16	.16¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Oct. 15	Oct. 8	Oct. 1
Gasoline, U. S. Motor, 58-60, 437	.08¾ .09	.08¾ .09	.08¾ .09
Kerosene, water white, 41-43	.07¾	.07¾	.08
*Fuel Oil, Bunker "C," 14-16, per bbl.	1.05	1.05	1.05
†Fuel Oil, Diesel, 28-30, per bbl.	2.00	2.00	2.00
Gas Oil, 32-36 gravity	.05¼	.05¼	.05¼
25 pale Paraffin Oil	.10½	.10½	.10½
32 pale Paraffin Oil	.07¼	.07¼	.07¼
285 red Paraffin Oil	.11½	.11½	.11½
250 red Paraffin Oil	.11	.11	.11
225 red Paraffin Oil	.09½	.09½	.09½
200 red Paraffin Oil	.09	.09	.09
Refined Wax:			
120-122 a.m.p., per lb.	.04	.04	.04
125-127 a.m.p., per lb.	.04¼	.04¼	.04¼
130-132 a.m.p., per lb.	.05½	.05½	.05½
133-135 a.m.p., per lb.	.06⅛	.06⅛	.06⅛
135-137 a.m.p., per lb.	.06¼	.06¼	.06¼
Petrolatum in barrels, carload lots, per pound:			
Dark Green	.019	.019	.019
Amber	.035⅛	.035⅛	.035⅛
Extra Amber	.037⅛	.037⅛	.037⅛
Cream	.063⅛	.063⅛	.063⅛
Lily White	.073⅛	.073⅛	.073⅛
Snow White	.083⅛	.083⅛	.083⅛

*Lighterage 5.0 cents a barrel extra. †Lighterage 6.5 cents a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Oct. 15	Oct. 8	Oct. 1
Kerosene, prime white	.07¾	.07¾	.07¾
Kerosene, water white	.09	.09	.09
600, steam refined cylinder stocks, in bbls.	.30	.30	.28 .29
635, steam refined	.32	.32	.31 .32
650, steam refined	.36	.36	.35 .36
600, Pennsylvania Flash	.43	.43	.42
630, Pennsylvania Flash	.47	.47	.46
600, Warren E	.47	.47	.40
600, Oil City, E	.41	.41	.39
Light 140-150 Bright Stocks	.60 .61	.60 .61	.60
Dark 140-150 Bright Stocks	.58 .59	.58 .59	.58

LOS ANGELES EXPORT PRICES

	Oct. 15	Oct. 8	Oct. 1
Kerosene, water white	.04½ .05	.04½ .05	.04½ .05
U. S. Motor Gasoline, 53-55, 437 e.p.,	.06½ .07	.07 .07½	.07 .07½

CRUDE OIL PRICES

OKAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Corsicana heavy (January 11)* ..... .80
Other fields.....See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

WEST TEXAS

Iatan*.....Same as North Texas
Crane-Upton-Crockett, Pecos, Winkler, Mitchell and Glasscock—See gravity table
Chalk† ..... .65

*Includes Howard County and Westbrook Fields.
†Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (May 20, 1929) .....$ .85
Smackover, 24 gravity and above (May 20, 1929) 1.00
Cotton Valley, below 36 gravity (May 22) ..... .85
Bellevue (May 29, 1929) 1.30
Urania (May 21, 1929) 1.10
East El Dorado (May 22, 1929) ..... .85
Other fields.....See gravity table

Cotton Valley crude above 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co.

GULF COAST

Grade A (May 20)* $1.30
Grade B .....See gravity table
Jennings, La. (March 14)† 1.05
Saratoga, Batson, Dayton (March 14, 1927)‡ 1.20
Markham (March 14)§ 1.00
High Island (December 14)¶ 1.00

*Humble Oil & Refining Co., The Texas Company, Gulf Pipe Line Co., and Sun Pipe Line Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §The Texas Company.
¶Posted by Gulf Pipe Line Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.
(Effective May 21, 1929)

Rock Creek, Wyo. $1.40
Salt Creek.....See gravity table
Big Muddy 1.43
Grass Creek, heavy (July 27, 1928) ... .90
Grass Creek, light 1.65
Mule Creek 1.20
Elk Basin 1.65
Lance Creek 1.68
Poison Spider (March 14, 1927)..... 1.00
Notches (March 14, 1927) ..... .65
Rex Lake (February 22) 1.10
Osage 1.65
Lost Soldier (contract, May 22) 1.05
Hamilton Dame (March 14, 1927) ..... .85
Pedro 1.25
Greybull 1.65
Four Bear ..... .85
Cat Creek (Montana) (July 27, 1928).. 1.48

(Continued on Page 138)

CRUDE OIL GRAVITY TABLE

Gravity	Okla., Kans., N. C. Texas 1	No. La. and Arkansas 2	Crane, Upton, Crockett, Winkler, Howard, Pecos, Texas crudes, and Lea, N. Mex. 3	Stephens, Ark. 4	Wheeler (Texas Panhandle) 5	Gray County (Texas Panhandle) 6	Carson and Hutchinson (Texas Panhandle) 7	Salt Creek, Wyo. 8	Grade B and Light Crude (G. Coast) 9	Somerset (South Central Texas) 10
24 and above	....	....	....	....	....	....	....	....	....	....
Below 24	....	....	....	....	....	....	....	....	....	....
Below 25	.85	....	.70	....	....	....	....	....	1.15	....
25 to 25.9	.90	....	.74	....	....	....	....	....	1.18	....
26 to 26.9	.95	....	.78	....	....	....	....	....	1.21	....
27 to 27.9	1.00	....	.82	....	....	....	....	....	1.24	....
Below 28	....	1.00	....	.90	.90	.90	.90	....	....	....
28 to 28.9	1.05	1.05	.86	.94	.90	.90	.90	....	1.27	....
29 to 29.9	1.10	1.10	.90	.98	.90	.95	.90	1.10	1.30	....
30 to 30.9	1.15	1.15	.94	1.02	.95	1.00	.90	1.15	1.33	....
31 to 31.9	1.20	1.20	.98	1.06	1.00	1.05	.90	1.20	1.36	....
32 to 32.9	1.25	1.25	1.02	1.10	1.05	1.10	.95	1.25	1.39	1.05
33 to 33.9	1.30	1.30	1.06	....	1.10	1.15	1.00	1.30	1.42	1.07
34 to 34.9	1.35	1.35	1.10	....	1.15	1.20	1.05	1.35	1.45	1.09
35 to 35.9	1.40	1.40	1.14	....	1.20	1.25	1.10	1.40	1.48	1.11
36 to 36.9	1.45	1.45	1.18	....	1.25	1.30	1.15	1.45	....	1.13
37 to 37.9	1.50	1.50	....	....	1.30	1.35	1.20	1.50	....	1.15
38 to 38.9	1.55	1.55	....	....	1.35	1.40	1.25	....	....	1.17
39 to 39.9	1.60	1.60	....	....	1.40	1.45	1.30	....	....	....
40 to 40.9	1.65	1.65	....	....	1.45	1.50	1.35	....	....	....
41 to 41.9	1.70	1.70	....	....	1.50	1.55	1.40	....	....	....
42 to 42.9	1.75	1.75	....	....	1.55	1.60	1.45	....	....	....
43 to 43.9	1.80	1.80	....	....	1.60	1.65	1.50	....	....	....
44 and above	1.85	1.85	....	....	1.65	1.70	1.55	....	....	....

Column 1, Note—Magnolia Petroleum Co. posted schedule May 20, 1929, making price below 26 gravity 70 cents per barrel, 26-26.9 gravity 75 cents, 27-27.9 gravity 85 cents, 28-28.9 gravity 90 cents, 29-29.9 gravity 95 cents, 30-30.9 gravity $1.05, and 31-31.9 gravity $1.15, with balance of the price schedule as shown above.

Oklahoma—Carter Oil Co., Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., The Texas Company, May 20.

North Central Texas—Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona and Moran, Prairie Oil & Gas Co., Sinclair Oil Refining Co., Humble Oil & Refining Co., The Texas Company and Gulf Refining Co., May 20.

Kansas—Prairie, Sinclair, The Texas Company and Carter, May 20.

Column 2—Arkansas and North Louisiana—(Caddo, Bull Bayou, Crichton, Cotton Valley, above 36 gravity, DeSoto, Haynesville, Homer and El Dorado only) May 22, Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Refining Co., Magnolia Petroleum Co., schedule applies to Pine Island, Haynesville, Bull Bayou, Louisiana and El Dorado, Ark., light crude.

Column 3—Humble Oil & Refining Co. and Magnolia Petroleum Co., May 20.

Column 4—Atlantic Oil Producing Co., Prairie Oil & Gas Co., Louisiana Oil Refining Corp., May 21, 1929.

Columns 5, 6 and 7—Humble Oil & Refining Co., Magnolia Petroleum Co., May 20, 1929.

Column 8—Midwest Refining Co., May 20, 1929. All crude over 37 gravity $1.50 per barrel.

Column 9—Humble Oil & Refining Co., May 20, 1929 (schedule ends 35 and above).

Column 10—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective January 18, 1929)

Gravity	Salt Lake, Potrero, Newport, Long Beach, Summerland, Lawndale, Los Angeles, Fullerton, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Signal Hill, Seal Beach, Huntington Beach, Athens, Inglewood, Rosecrans-Dominguez, Watsonville 1	Whittier, La Habra, Coyote Hills 2	Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills 3	Montebello 4	Santa Fe Springs 5	Santa Maria, Coalinga 6	Wheeler Ridge, Fruitvale 7	Orcutt, Ventura, Rincon 8	Ventura Ave. 9	Elwood Terrace 10
14 to 14.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....
15 to 15.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....
16 to 16.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....
17 to 17.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....
18 to 18.9	.75	.75	.56	.70	....	.56	.56	.70	.75	....
19 to 19.9	.80	.80	.62	.75	....	.62	.62	.70	.80	....
20 to 20.9	.85	.84	.68	.80	....	.68	.68	.70	.85	....
21 to 21.9	.89	.88	.74	.85	.89	.74	.74	.86	.86	....
22 to 22.9	.93	.91	.80	.90	.92	.80	.80	.87	.87	....
23 to 23.9	.97	.94	.85	.95	.95	.85	.85	.90	.90	....
24 to 24.9	1.01	.97	.90	.98	.98	.88	.88	.94	.94	....
25 to 25.9	1.05	1.00	.95	1.01	1.01	.91	.91	.98	.98	....
26 to 26.9	1.09	1.04	1.00	1.04	1.04	.94	.94	1.02	1.02	....
27 to 27.9	1.13	1.08	1.05	1.07	1.07	.98	.97	....	1.06	....
28 to 28.9	1.17	1.12	1.10	1.10	1.10	1.02	....	....	1.10	....
29 to 29.9	1.21	1.16	1.16	1.13	1.15	1.06	....	....	1.14	....
30 to 30.9	1.25	1.20	1.22	1.16	1.20	1.10	....	....	1.18	....
31 to 31.9	1.30	....	1.28	....	1.25	1.14	....	....	1.23	....
32 to 32.9	1.35	....	1.34	....	1.30	1.18	....	....	1.28	....
33 to 33.9	1.41	....	1.40	....	1.35	1.22	....	....	1.34	....
34 to 34.9	1.47	....	1.46	....	1.40	1.26	....	....	1.40	1.16
35 to 35.9	1.53	....	....	....	1.45	1.30	....	....	1.46	1.22
36 to 36.9	1.59	....	....	....	1.50	....	....	....	1.52	1.28
37 to 37.9	1.65	....	....	....	1.55	....	....	....	1.58	1.34
38 to 38.9	1.71	....	....	....	1.60	....	....	....	1.64	1.40
39 to 39.9	1.77	....	....	....	1.65	....	....	....	1.70	1.46
40 to 40.9	1.83	....	....	....	....	....	....	....	1.76	1.52
41 to 41.9	1.89	....	....	....	....	....	....	....	1.82	1.58
42 to 42.9	1.95	....	....	....	....	....	....	....	1.88	1.64

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain 11 to 13.9 gravity 45 cents, 14 gravity and above 50 cents, effective October 2, 1929. On December 1, 1928, the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Mills and Coalinga crude as follows: 11 to 13.9 gravity at 45 cents, 14 gravity and above 50 cents.

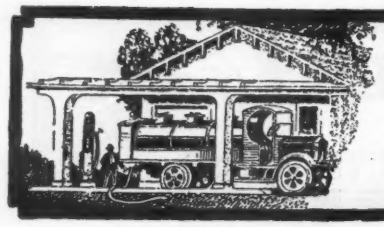
Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity; Dominguez and Athens-Rosecrans, 24 to 42.9 gravity.

Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 45 cents.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9—Posted by Union Oil Co. only.



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Oct. 15

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO (INDIANA)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Chicago dist.†..	19.0	20.0	3.0	13.0
Decatur, Ill. ...	19.2	20.2	3.0	13.1
E. St. Louis ...	18.4	17.4	3.0	12.2
Joliet	19.4	20.4	3.0	13.3
Peoria	19.2	20.2	3.0	13.1
Quincy	19.2	20.2	3.0	12.9
Davenport, Ia...	19.5	20.5	3.0	13.3
Des Moines ...	19.5	20.5	3.0	13.3
Keokuk	19.5	20.5	3.0	13.3
Sioux City	19.1	20.1	3.0	12.9
Duluth, Minn...	20.5	21.5	3.0	13.9
Mankato	20.1	21.1	3.0	13.7
Minneapolis ...	20.2	21.2	3.0	13.9
LaCrosse, Wis..	19.2	20.2	2.0	14.0
Milwaukee	18.1	19.1	2.0	12.9
Madison	18.3	17.3	2.0	13.1
Detroit, Mich...	19.8	20.8	3.0	14.7
Grand Rapids..	19.7	20.7	3.0	14.6
Saginaw	19.9	20.9	3.0	14.8
Evansville, Ind.	20.0	21.0	4.0	14.0
Fort Wayne ...	20.4	21.4	4.0	14.4
Indianapolis ...	20.2	21.2	4.0	14.2
South Bend ...	20.4	21.4	4.0	14.4
Fargo, N. D. ..	21.9	22.9	3.0	15.9
Huron, S. D. ..	21.3	22.3	4.0	14.7
Sioux Falls	20.1	21.1	4.0	14.4
K. C., Mo.*	18.9	19.9	3.0	11.6
Springfield* ...	18.8	19.8	3.0	12.5
St. Louis*	17.9	18.9	2.5	12.3
St. Joseph	18.5	19.5	2.0	12.2
Wichita, Kans..	17.8	18.8	3.0	11.8
Bartlesville, Ok.	18.5	19.5	4.0	11.5

*State tax 2 cents; remainder city tax.

†Effective February 20, discounts on Q.D.A. in Chicago district 2 cents off service station price on purchases of 500 gallons or more per month and 4 cents on purchases of 1,000 gallons or more per month.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	15.7	12.9
V. M. & P. Naphtha	17.2	13.9
Cleaner's naphtha	17.0	14.9
Stanisol	18.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 799 gallons	8.0
800 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

The following quantity discounts from the service station price are allowed on monthly sales of gasoline; 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2½ cents; more than 6,000 gallons, 3 cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Dallas, Tex. ...	17.0	21.0	4.0	13.0
Fort Worth ...	17.0	20.0	4.0	12.0
Houston	13.0	17.0	4.0	11.0
San Antonio ...	17.0	21.0	4.0	11.0
El Paso	15.0	18.0	4.0	16.0
Texarkana	17.0	19.0	4.0	12.0
Muskogee, Ok.*	16.0	19.0	4.0	13.0
Okla. City* ...	17.0	20.0	4.0	10.0
Tulsa*	15.0	19.0	4.0	10.0
Ft. Smith, Ark.	15.0	17.0	5.0	12.0
Little Rock ...	19.0	23.0	5.0	13.0

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Denver, Colo....	18.0	21.0	4.0	15.5
Pueblo	18.0	21.0	4.0	15.5
Grand Junction	22.5	25.5	4.0	19.0
Casper, Wyo. ..	21.0	24.0	4.0	14.0
Cheyenne	22.0	25.0	4.0	15.5
Butte, Mont. ..	25.5	28.5	5.0	20.0
Helena	25.5	28.5	5.0	20.0
Salt Lake, Utah	22.0	25.0	3.5	17.0
Albu'que, N. M.	21.0	24.0	5.0	17.0
Boise, Idaho ..	24.5	27.5	4.0	19.0
Twin Falls	24.5	28.5	4.0	19.0

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Pittsburgh, Pa..	16.0	*22.0	...	13.0
Philadelphia ...	16.0	*22.0	...	13.0
Scranton	16.0	*22.0	...	13.0
Allentown	16.0	*22.0	...	13.0
Altoona	16.0	*22.0	...	13.0
Erie	13.0	*17.0	...	13.0
Dover, Del.	18.0	21.0	3.0	13.0
Wilmington ...	19.0	21.0	3.0	13.0
Springf'd, Mass.	18.0	20.0	2.0	15.0
Worcester	18.0	20.0	2.0	15.0
Boston	18.0	20.0	2.0	15.0
Providence, R.I.	18.0	20.0	2.0	13.0
Hartford, Conn.	18.0	20.0	2.0	14.0
New Haven ...	18.0	20.0	2.0	15.0

*Includes tax of 4.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Albany, N. Y...	18.0	20.0	2.0	15.0
New York*	16.0	18.0	2.0	15.0
Buffalo	18.0	20.0	2.0	14.0
Rochester	18.0	20.0	2.0	14.0
Syracuse	18.0	20.0	2.0	15.0
Boston, Mass...	18.0	20.0	2.0	15.0
Augusta, Me. ..	20.0	22.0	4.0	15.0
Manch't'r, N. H.	20.0	22.0	4.0	15.0
Burlington, Vt..	19.0	20.0	4.0	15.0

*Prices in steel barrels.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atlanta, Ga. ...	20.0	22.0	4.0	16.5
Augusta	20.0	22.0	4.0	15.5
Macon	23.0	25.0	4.0	16.5
Savannah	22.0	24.0	4.0	15.5
Birm'ham, Ala..	19.0	21.0	4.0	13.0
Mobile	20.0	22.0	4.0	15.0
Montgomery ...	21.0	23.0	4.0	16.5
Clarks'le, Miss..	18.0	20.0	5.0	12.5
Jackson	21.0	23.0	5.0	13.0
Natchez	20.5	20.5	5.0	14.0
Gulfport	22.5	24.5	5.0	14.0
Vicksburg	20.5	22.5	5.0	14.0
Jack'ville, Fla..	22.0	24.0	6.0	14.5
Miami	23.0	25.0	6.0	15.5
Pensacola	23.0	25.0	6.0	14.5
Tampa	22.0	24.0	5.0	14.5
Lexington, Ky..	20.0	22.0	5.0	15.5
Covington	21.0	22.0	5.0	15.5
Louisville	21.0	23.0	5.0	15.0
Ashland	18.0	19.0	5.0	15.5
Catlettsburg ...	18.0	19.0	5.0	15.5

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. Pensacola and Mobile taxes include 1-cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
San Francisco..	20.0	24.0	3.0	15.5
Los Angeles ..	19.5	23.5	3.0	15.5
Reno, Nev.	24.0	26.0	4.0	19.0
Portland, Ore. .	20.5	24.5	3.0	16.5
Seattle, Wash...	20.5	23.5	3.0	16.5
Tacoma	20.5	23.5	3.0	16.5
Spokane	24.5	27.5	3.0	20.5
Phoenix, Ariz..	18.0	22.0	4.0	20.5

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Omaha	20.25	22.25	4.0	13.25
McCook	21.75	23.75	4.0	14.75
Norfolk	20.75	22.75	4.0	13.75
N. Platte	21.75	23.75	4.0	14.50
Scottsbluff	21.75	23.75	4.0	14.25

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atlantic City ..	16.0	18.0	2.0	13.0
Newark, N. J...	17.0	19.0	2.0	13.0
Annapolis, Md..	20.0	22.0	4.0	13.0
Baltimore	19.0	21.0	4.0	12.0
Cumberland ...	20.0	22.0	4.0	13.0
Washington ...	17.0	19.0	2.0	12.0
Danville, Va. ..	21.0	23.0	5.0	12.0
Norfolk	20.0	22.0	5.0	13.0
Petersburg	21.0	23.0	5.0	13.0
Roanoke	20.0	21.0	5.0	13.0
Richmond	20.0	22.0	5.0	13.0
Charles'n, W.Va.	19.0	21.0	4.0	13.0
Keyser	20.0	22.0	4.0	13.0
Parkersburg ...	19.0	21.0	4.0	12.0
Wheeling	20.0	22.0	4.0	13.0
Charlotte, N. C.	21.0	23.0	5.0	13.0
Hickory	21.0	23.0	5.0	13.0
Mt. Airy	21.0	23.0	5.0	13.0
Salisbury	21.0	20.0	5.0	13.0
Charleston, S.C.	21.0	23.0	6.0	13.0
Columbia	22.0	24.0	6.0	13.0

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

OHIO

Standard Oil Co. (Ohio)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Ohio points* ..	19.0	20.0	4.0	†13.0

*Dealers and commercial accounts 2 cents under tank wagon.

†Service station price 15 cents.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
N. Orleans, La.*	15.0	17.0	5.0	13.0
Baton Rouge ..	20.0	20.9	4.0	14.5
Alexandria	19.0	21.0	5.0	16.0
Lafayette†	20.0	22.0	5.0	14.0
Lake Charles†..	20.5	22.5	5.0	16.0
Shreveport	19.5	21.5	4.0	15.0
Knoxv'le, Tenn.	20.0	20.0	5.0	16.0
Memphis	20.0	22.0	5.0	12.5
Chattanooga ..	20.0	22.0	5.0	14.0
Nashville	19.0	19.0	5.0	16.0
Bristol	21.0	22.0	5.0	14.0
Lt. Rock, Ark..	21.0	23.0	5.0	13.0

*Tax of 5 cents includes city tax of 1 cent. Louisiana Kerosene prices include 1-cent state tax and 1-cent parish tax.

†Includes 1-cent parish tax.

TANK WAGON CHANGES

October 3—Standard Oil Co. of New Jersey reduced the kerosene price 1 cent in Parkersburg, W. Va., to 12 cents.

October 10—Atlantic Refining Co. reduced the gasoline tank wagon price 1 cent in Delaware and New Jersey making the new net price 15 cents.

Standard Oil Co. of New Jersey reduced the gasoline tank wagon and station prices 1 cent at numerous points as shown in the table.

September 25—Standard Oil Co. of Louisiana reduced the gasoline station price 2 cents in Knoxville, Tenn, to 20 cents.

October 4—Magnolia Petroleum Co. reduced gasoline tank wagon and service station prices 1 cent at Muskogee.

CRUDE PRICE CHANGES

October 7—Stoll oil & Refining Co. reduced Oil City, Ky., crude in their lines 10 cents making the new price $1.70 per barrel.

TIDE WATER OPERATING NEW PIPE STILL UNIT

NEW YORK, Oct. 12.—Tide Water Oil Co. has started operation of the new Pennsylvania pipe still at its Bayonne refinery. The new still, according to the company, represents one of the latest improvements in petroleum refining. This unit is constructed on the site formerly occupied by three coke stills and is used for the reduction of Pennsylvania crude to cylinder stock residue.

The still has a capacity of 7,500 bbls. every 24 hours and will do the work formerly accomplished by 10 stills, which were operated on the batch principle. The old batch stills merely separated the crude into various stocks, which had to be redistilled and chemically treated. The cycle of operation was from 24 to 40 hours and the fuel and steam consumption was high.

In the pipe still the crude oil is preheated by contact with the hot gases and is pumped at a high velocity through tubes or pipes, which are set in the furnace. From the tubes it goes to the fractionating towers. The time of contact with the hot tube walls is short, thus improving the quality of the product.

The personnel of this unit consists of seven men—a stillman and assistant stillman for each of the three shifts and a pusher.

CRUDE OIL PRICES

(Continued from Page 137)

Sunburst (Montana) (May 23, 1929) ...	1.75
Torchlight	1.65
Hogback (New Mexico)	1.70

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

Luling (May 2)*	$ .90
Mirando (May 20, 1929)†	.90
Salt Flat (May 20, 1929)‖	1.25
Rockdale Minerva (April 15)	
Below 28 gravity	1.25
28-38.9 gravity	1.27
39-39.9 gravity	1.29
40 and above	1.31
Thrall‡	...
Callihan (May 15)	1.75
Lytton Springs (Lockhart)	See gravity table
Somerset	See gravity table

*Posted by Magnolia Petroleum Co.
†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.
‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight.
‖Humble Oil & Refining Co.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective October 1, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$3.05
Bradford District Oil in National Transit Lines (Pennsylvania)	3.05
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.05
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.00
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	2.90
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.70
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 22, 1929)	1.75
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Line (May 22, 1929).	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s Lines (May 22, 1929).	1.90
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) (May 22, 1929) ...	1.80
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Jan. 29) ...	.60

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective May 21, 1929)

Lima	$1.80
Wooster	1.90
Illinois	1.75
Indiana	1.57
Princeton	1.75
Plymouth	1.28
Waterloo (November 17, 1926)	1.35
Western Kentucky	1.68
Dundee, Mich. (Sept. 17, 1929)‖	
.. Same as Mid-Continent gravity scale	
Upper and Lower Traverse sands, Mich‖	
.....Same as Mid-Continent gravity scale	
Midland, Mich. (June 3, 1929)*	1.70
Saginaw, Mich., Saginaw Sand (February 10)†	1.89
Saginaw, Mich., Berea Sand (February 10)†	1.79
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky, (March 15)‡	1.50
Oil in line in Stoll Oil Refining Co. In Oil City, Ky. (Oct. 7, 1929)§	1.70
Oil Springs (Canada)¶	2.27
Petrolia (Canada)¶	2.26

*Posted by Pure Oil Co.
†Posted by Sun Oil Co.
‡Posted by Paragon Development Co.
§Posted by Stoll Oil Refining Co.
¶Posted by Imperial Oil Co., Ltd.
‖Posted by Standard of Indiana for boat shipment.

MEXICAN CRUDE

Panuco*	$ .630

*Based on September transactions for deliveries during October and December. Price exclusive of taxes.

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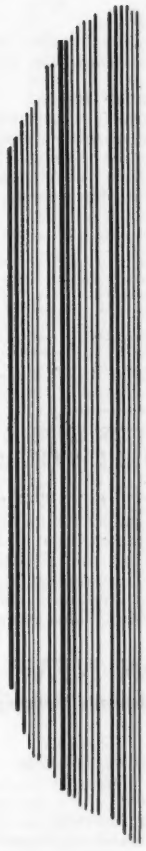

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Expansion of The Texas Corporation

President Holmes Makes Statement on Offer of $100,000,000 Debenture Issue. Lone Star Gas Corp. Issue

An extensive expansion program of the Texas Corp., including the acquisition of other oil properties and the enlargement of its present operations, is to be financed with the proceeds of a $100,000,000 debenture issue just offered.

The securities are convertible sinking fund 5 per cent debentures, due on October 1, 1944. The were offered at 98½ and interest, to yield more than 5⅛ per cent.

Ralph C. Holmes, president, in an announcement, said the proceeds would be used for the "further expansion of the corporation's activities, including producing, transporting, refining and distributing facilities, and should add materially and satisfactorily to the earnings of the corporation." He said that, due to the "constantly increasing production and necessity for adequate facilities, capital expenditures have been considerably in excess of the amounts contemplated a year ago."

"Unless conditions change materially between now and the end of the year," Mr. Holmes said, "it is estimated that the earnings before providing for Fedral income taxes will be between $55,0000,000 and $60,000,000."

The new debentures will be convertible, at the option of the holder, into the company's common stock on the following terms: At $70 a share, to and including October 1, 1930; at $75 a share thereafter to and including October 1, 1931: at $80 a share thereafter to and including October 1, 1934; at $100 a share thereafter to and including October 1, 1939, and at $125 a share thereafter to maturity. Sinking fund provisions have been made to retire a minimum of $45,000,000 prior to maturity.

Besides these debentures, the Texas Corp. has outstanding $10,200,000 of convertible sinking fund 5½ per cent debentures, due 1938; $7,000,000 of convertible sinking fund 5 per cent debentures, due 1939, of the California Petroleum Corp., and $246,204,900 of $25 par capital stock. A meeting of stockholders will be held on November 7 to authorize the issuance of an additional $100,000,000 of capital stock, of which an amount sufficient to cover the conversion of these debentures will be reserved.

Lone Star Gas

A special meeting of stockholders of Lone Star Gas Corp. has been called for October 31 for the purpose of changing authorized capital stock from 7,000,000 shares no par value to 7,100,000 shares of which 7,000,000 shares will be common and 100,000 shares will be 61 per cent preferred $100 par. It is proposed to sell shortly $8,000,000 par value of the preferred stock, the proceeds to be used for acquisition of certain public utility companies.

Cities Service

Following a special meeting of the board of directors of Cities Service Co., it was announced that the company would give its 235,000 common stockholders an opportunity in the form of rights to purchase additional common stock at $45 per share on the basis of one share for every 10 shares owned.

Union Oil

Union Oil Co. of California has declared a quarterly stock dividend of 1 per cent on the $25 par stock, and the regular quarterly cash dividend of 50 cents. Quarterly stock payment places issue on 4 per cent annual stock basis in addition to the $2 annual cash basis. Cash dividend is payable November 9 to stock of record October 17 and stock dividend is payable to stock of record November 20.

Statement of Union Oil Co. of California for nine months ended September 30, 1929, estimates net income at $12,000,000, after interest, depreciation, depletion, federal taxes, etc., equivalent to $2.94 a share (par $25) on 4,082,000 shares of stock. This compares with $8,550,000, or $2.25 a share on 3,791,924 shares in first nine months of 1928.

Atlantic Refining Co.

Certificate of increase in capital stock to $300,000 from $200,000 has been filed with Secretary of State of Delaware by Atlantic Refining Co. of Spain. The Spanish company was organized by Atlantic Refining Co. in 1923 to handle the company's distribution of oil products in that country. Atlantic also has marketing agencies in other European countries, in South America, in territories on West African coast, and, jointly with Union Oil Co. of California, in Australia and New Zealand.

Andian National

Meeting of stockholders of Andian National Corp. has been called for November 9 to authorize directors to declare a stock dividend. Andian National is a subsidiary of International Petroleum Co. Ltd., which in turn is controlled by Imperial Oil, Ltd., a subsidiary of Standard Oil Co. of New Jersey.

Andian National owns a pipe line, 335 miles long, between oil fields in Colombia and Cartagena harbor, and pipes oil from International's wells. In August, 1926, initial line with capacity of 30,000 bbls. daily was completed and in July, 1927, additional facilities were completed enabling transportation of 50,000 bbls. daily.

No dividend has ever been declared on the capital stock, of which 3,000,000 shares of no par value are authorized and 2,125,000 shares outstanding.

Empire Gas & Fuel

Empire Gas & Fuel Co. declared regular monthly dividends of 50 cents on 6 per cent preferred, 54 1/6 cents on 6½ per cent preferred, 58⅓ cents on 7 per cent preferred and 66⅔ cents on 8 per cent preferred, all payable November 1 to stock of record October 15.

Tide Water Oil

Tide Water Oil Co. declared the regular quarterly dividend of $1.25 on the preferred, payable November 15 to stock of record October 18.

American Natural Gas

American Natural Gas Corp. declared regular quarterly dividend of $1.75 on $7 cumulative convertible preferred stock, payable November 1 to stock of record October 21.

Burmah Oil

Burmah Oil Co., Ltd., has declared an interim dividend of 2 shillings, less tax payable November 8.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York curb, based on closing quotations for Saturday, was as follows:

May 4	58.14	July 26	55.62
May 11	59.75	Aug. 3	55.09
May 18	59.30	Aug. 10	54.15
May 25	57.73	Aug. 17	60.32
June 1	56.45	Aug. 24	60.61
June 8	58.37	Aug. 31	60.90
June 14	57.76	Sept. 7	59.16
June 21	56.76	Sept. 14	60.40
June 28	56.70	Sept. 21	57.93
July 5	56.52	Sept. 28	58.63
July 12	55.69	Oct. 5	57.00
July 19	56.83	Oct. 12	59.75

ALLOW PATENT FOR INNER LINING IN SHELL STILLS

WASHINGTON, D. C., Oct. 12.—Inclusion in a claim for a patent for an apparatus for treating hydrocarbons in a complete cylindrical lining shell constitutes patentable invention according to a holding by the Board of Appeals of the United States Patent Office. This recognizes a substantial difference between a complete cylindrical lining shell and an open top trough. Following this decision an amended claim by Gustav Egloff of the Universal Oil Products Co. and others pertaining to an apparatus for pressure distilling oils was held to be allowable and a patent has been granted for such apparatus.

The opinion of the Board of Appeals follows:

"This is an appeal from the action of the examiner finally rejecting the following claim:

"3. An apparatus for hydrocarbon-oil treatment, including an expansion chamber comprising a relatively stationary outer shell and a removable inner shell concentric with said outer shell, said outer shell having a movable closure element operable to permit the introduction and withdrawal of said movable inner shell.

"This application discloses an oil cracking and distilling plant in which an improved expansion chamber constitutes a part. The essential feature of the claimed expansion chamber is the combination with an outer shell which constitutes the real chamber of an inner removable shell so that deposited carbon may easily be removed from the expansion chamber by removal of the inner shell. Both the outer and removable inner shells are cylindrical and of such size that the inner shell substantially fits into the cavity of the outer shell."

C. E. GILMORE DIES

SAN ANTONIO, Tex., Oct. 12.—Clarence E. Gilmore, 57, chairman of the Texas Railroad Commission, died suddenly of heart failure in his room at the Gunter Hotel Thursday, following a recess for lunch after a morning session.

INDEPENDENT OILS ON NEW YORK CURB

Compiled by Francis, Bro. & Co., Kennedy Building, Tulsa, Okla.

1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low	Par value	Stocks	For week ended October 11 Sales	Open	High	Low	Last	Change
$6.75	.45	2 1/16	.55	1½	.53	.72	¼	$5	Amer. Con. Oilfields	4,400	¼	¼	¼	¼	+ ⅛
..	..	7½	2¾	9½	3⅛	8⅝	3½	N.P.	Amer. Maracaibo	4,000	3¼	3½	3	3⅛	+ ⅛
..	..	2¾	1	4½	2¼	5	1⅞	$10	Argo Oil	100	1¾	1¾	1¾	1¾	+ ⅛
85¼	60	40	20½	55	32¾	62	45	N.P.	British American	No sales.					
28⅜	9¼	28¼	15½	4½	3⅞	4⅞	2⅝	25c	Carib. Syndicate (new)	3,700	2	2¾	2	2⅛	+ ⅛
..	..	58¾	40¼	90⅞	54	53¼	28⅛	N.P.	Cities Service	376,500	60¾	66⅜	60⅝	66⅜	+ 5⅝
..	..	95⅜	87	103½	94½	98¾	93½	N.P.	Cities Service, pfd.	1,100	..	94½	94¼	94½	...
3½	1¾	3⅞	1⅛	3¼	.76	2	⅝	1	Colombia Syndicate	1,300	⅝	¾	⅝	¾	+ ⅛
..	..	9¾	6⅜	8⅞	6¼	11⅛	6⅞	10	Consolidated Royalty	400	5⅜	5⅜	5⅛	5⅜	+ ⅜
16	10	14⅞	9½	17½	9½	11¾	7⅜	N.P.	Creole Syndicate	20,000	7⅞	8½	7⅞	8½	+ ⅝
..	..	3	.50	3¼	.76	2½	1⅛	N.P.	Crown Central	300	¾	⅞	¾	⅞	— ⅛
7⅞	6¾	12	4	33½	3¼	26	11½	N.P.	Darby Petroleum	3,400	10⅞	13⅞	10⅞	12½	+ 2½
..	..	2½	74	2¼	1	11	2	N.P.	Derby Oil & Ref.	6,900	6¾	8½	6¾	8	+ 1¾
..	..	16¾	4	21⅛	7½	44	20⅞	N.P.	Derby Oil & Ref., pfd.	No sales.					
98	92	118	86¼	165	101⅛	209	142⅛	$25	Gulf Oil Corp.	6,300	187⅛	194⅞	187⅛	194⅞	+ 9⅞
$3.00	.83	2½	.80	3⅜	1	2⅞	1⅛	5	Intercontinental Pet.	4,600	1⅛	1½	1⅛	1⅜	+ ¼
..	..	2¼	1⅛	3	1¼	3⅝	1⅜	N.P.	Kirby Petroleum	1,000	2	2¾	2	2¾	+ ¾
12¼	5¾	10⅞	5⅛	9⅜	5⅛	6⅛	2⅞	25	Leonard Oil & Dev.	4,500	3¾	4¼	3½	3½	...
27	20	27½	20	43⅞	20	38⅞	23⅛	N.P.	Lion Oil & Ref. Co.	900	30	32⅞	30	31	+ 3
46	30	59⅜	37	69⅛	48½	50	32¼	N.P.	Lone Star Gas	4,800	65¼	64⅞	58	62⅞	— 1⅛
2⅞	1	2⅞	.80	1⅞	.50	1¼	⅜	1	Magdalena Syndicate	600	⅜	⅜	⅜	⅜	— ⅛
34	12½	52	12	48½	32	38½	20	N.P.	Margay Oil	200	19	19	18½	18½	— ½
8	5½	12⅛	5	8	2¾	6⅜	3⅜	N.P.	Mexico-Ohio Oil	No sales.					
1¾	1⅛	1½	1	1¾	.76	1½	⅞	$1	Mountain & Gulf	700	⅞	⅞	⅞	⅞	...
26	23	29¼	22¾	28⅞	19½	22⅞	11⅛	10	Mountain Producers	5,200	10⅛	10⅞	10	10⅜	+ ¼
6⅝	5	5⅞	4⅝	5⅝	4¼	5	3	5	New Bradford	600	3⅛	3⅜	3	3⅛	...
..	..	16	9¼	11⅞	7⅛	9⅜	5½	1	New Mex. & Ariz.	1,200	4¼	4¼	4	4	— 1
..	..	12¾	9½	14¼	8½	18½	8¾	N.P.	North Central Texas	700	11¾	11¾	11⅜	11⅜	— ⅛
10⅛	5⅞	9⅜	3¼	6	2⅛	3½	⅞	N.P.	Pandem	4,900	¾	¾	½	¾	+ ⅛
12¼	11¾	12⅛	7	15⅝	8½	10¼	5⅛	N.P.	Pantapec Oil	8,800	4	5	3⅞	4⅞	+ ⅞
22¾	12	13½	5⅛	7¾	4⅞	7⅜	4⅜	N.P.	Pennok Oil	No sales.					
17	8½	24⅜	7	18	4⅞	16	10	25	Red Bank Oil	300	10	10	10	10	...
30¼	12	15½	3½	12⅞	4⅛	8½	4½	N.P.	Reiter-Foster	4,400	3⅜	4	3⅜	3½	+ ⅜
7	4½	7	4½	12	4⅛	11	5	N.P.	Ryan Consolidated	200	6	6	6	6	+ ⅜
10	7⅛	8	5¼	7¼	5½	5⅞	2	$10	Salt Creek Cons.	300	2⅞	2⅞	2⅞	2⅞	+ ¼
35	24⅛	35½	27¼	35	23⅛	25⅞	13	10	Salt Creek Prod.	3,000	13	13¾	13	13	— ⅜
6⅞	1¼	7	1¼	3½	1	2½	1⅛	5	Savoy Oil	400	⅝	1⅛	⅝	1⅛	...
92	63½	92	63½	93¼	75	145	82	100	Transcontinental, pfd.	No sales.					
8	4½	7⅜	4¼	9⅛	4¾	6½	3	5	Venezuelan Petrol	3,000	3	3½	3	3½	+ ½
8⅛	5½	8	4⅝	8¼	4⅞	9⅛	4⅛	$1	Woodley Petroleum	400	4¼	4½	4¼	4½	+ ½
6½	6	6	1⅝	8⅝	2⅛	..	..	25	Y Oil & Gas (new)	200	1½	1½	1½	1½	+ ⅜

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of New York Stock Exchange, Kennedy Building, Tulsa, Okla

1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low		Listed capital	Par value	Div. rate	Last paid	Stocks—	For week ended October 12 Sales	Open	High	Low	Last	Change
32⅞	24¼	37⅝	27⅝	43⅞	27⅛	42⅝	22½	(sh)	922,075	N.P.	50cQ	July 31, 29	Amerada Corp.	2,200	26⅞	27⅝	26⅞	27⅝	+ ¾
74	39⅞	82⅛	35⅛	85	51⅛	64¾	31	(sh)	209,180	N.P.	.....	.....	American Republics Corp.	5,400	38	41¾	38	40⅜	+ 3⅜
60	44¾	50¼	35	53⅜	37½	47¼	40½		$57,260,300	$25	50cQ	Sept. 30, 29	Associated Oil	4,000	44½	44½	44½	44½	...
128⅜	97	131⅜	104	66⅜	50	77⅞	53½		50,000,000	25	25cQ*	Sept. 16, 29	Atlantic Refining	42,000	57¾	60⅜	56⅝	57¾	+ ¾
33½	23½	35½	20¾	53	20	49⅛	33⅛		45,235,650	25	50cQ	Aug. 6, 29	Barnsdall Corp.	29,600	34¼	35½	33⅝	33¾	+ 1¼
..	..	..	..	..	..	47⅛	28½		4,634,532	N.P.	.....	.....	Continental Oil	102,600	31⅝	35¾	31½	34¼	+ 2¾
94½	50	96¾	65	94⅞	68	94¾	61		20,785,400	100	.....	.....	General Asphalt	17,500	82¾	85½	82	85	+ 2⅝
72	50¼	175¾	60⅛	167	79	109	68½		25,000,000	100	.....	.....	Houston Oil	56,300	89⅝	94⅞	88½	90½	+ 1⅜
34	19⅝	32¾	17⅝	38⅜	21¾	39⅜	29⅛	(sh)	1,333,572	N.P.	50cQ	July 31, 29	Independent Oil & Gas	14,300	30⅝	31¾	30⅛	31	+ ¾
12¾	7½	12⅛	7⅝	39⅝	9	53	29		$12,307,370	$10	.....	May 31, 24	Indian Refining	46,400	42	45	42	43¼	+ ¾
25⅞	16½	37¾	20½	39⅛	27⅜	38⅜	26	(sh)	3,992,122	N.P.	.....	May 1, 27	Lago Oil & Transport	9,800	29⅞	32¾	29⅞	32⅛	+ 4⅝
19⅞	12	18⅛	10	19¾	9⅝	18	10⅜	(sh)	1,190,063	N.P.	.....	.....	Louisiana Oil Refining	4,800	10⅞	11⅝	10⅝	10¾	— ⅝
28	16½	22¾	12	25½	12½	18½	12	(sh)	330,000	N.P.	.....	.....	Maracaibo Oil	20,000	13¼	15¼	13	14⅞	+ 3¼
13¾	6	9¼	3	73	4⅝	69⅜	21¾	(sh)	1,276,873	N.P.	.....	Dec. 15, 20	Mexican Seaboard	23,600	32⅜	33⅞	30	30⅛	—1⅜
37	20½	39⅜	25½	44½	25⅛	39⅞	30½	(sh)	1,857,912	N.P.	50cQ	Aug. 15, 29	Mid-Continent Petroleum	13,200	33⅛	34½	33⅛	34	+ 1½
2½	½	3¾	1⅝	7⅜	2⅜	5⅛	1¾		24,298,850	10	.....	July 1, 23	Middle States	2,500	1¾	1¾	1½	1½	— ⅛
76½	56⅛	65⅞	40⅛	54⅞	38¼	69	40¼		49,997,750	50	.....	Oct. 20, 27	Pan American P. & T.	2,900	64½	66½	64¼	64¼	+ 2¾
78⅝	56⅞	66⅜	40¼	58⅞	37⅜	69¼	40½		118,034,739	50	.....	Nov. 15, 24	Pan American P. & T. B.	66,000	64⅛	66¼	64	64⅛	+ 2⅜
46	30	37⅞	16¾	28⅜	15½	18½	13⅝	(sh)	400,000	N.P.	.....	Jan. 30, 27	Pan American Western B	2,000	13⅜	13½	12⅞	12⅞	— ¾
32	4½	18⅞	8	21¾	11½	15¼	7	(sh)	199,370	N.P.	.....	.....	Panhandle P. & R.	1,000	6½	7¾	6½	6⅝	+ ⅝
99⅜	51	83	54	108	70	76	47½		$2,635,300	$100	.....	July 2, 23	Panhandle P. & R. pfd.	No sales.					
57⅜	40	60¼	36¼	53⅞	35¼	47	35	(sh)	2,406,796	N.P.	37½cQ	Oct. 2, 29	Phillips Petroleum	72,900	38¾	42½	37⅛	41⅞	+ 3⅞
..	..	1⅛	½	5¼	½	3⅜	1½		$29,622,925	$25	.....	.....	Pierce Oil Corp.	4,900	1⅞	2	1¾	1¾	...
7	2¼	5½	2½	7	3½	5⅞	3⅞	(sh)	2,500,000	N.P.	.....	.....	Pierce Petroleum	4,000	4⅛	4¼	4⅛	4⅛	+ ⅛
60¼	48	55½	45⅝	68	46	65⅝	50⅜		60,000,000	25	50cQ*	Sept. 30, 29	Prairie Oil & Gas	4,900	53	55	53	55	+ 2
137½	122½	190	130¾	280	172	65	53⅝		$101,250,000	$25	75cQ*	Sept. 30, 29	Prairie Pipe	5,900	60⅛	61⅝	60⅛	61½	+ 1¼
20¾	11	33⅞	16¾	29⅞	16	25⅞	11½		$37,450,850	$50	.....	Sept. 15, 23	Producers & Refiners	700	13	14⅜	12½	12½	+ ½
41¾	30¾	50	36⅞	49⅝	41	46¾	34		2,845,350	50	37½cQ	May 1, 25	Producers & Refiners pfd.	38,000	38	38	37	37	—1
31	25¼	33½	25	31⅝	19	30¾	23¼		75,959,350	25	.....	Sept. 2, 29	Pure Oil Co.	37,900	26⅛	28	25¾	27⅝	+ 2½
27½	22	28⅝	25⅜	56	23	49⅝	38¼		1,917,181	20	50cQ*	Aug. 15, 28	Richfield Oil	13,900	39½	40⅜	38¼	39	— ¼
57⅜	47⅜	54½	44¼	64	44⅝	64	49⅞	(sh)	611,303	13.40	.....	Aug. 13, 29	Royal Dutch, N. Y., sh.	259,800	60	63¾	59¾	61⅜	+ 1
48⅝	40½	47⅞	41⅜	57½	40⅝	55¾	43⅜	(sh)	£30,000,000	£1	$1.45	July 23, 29	Shell Transport & T.	300	47¾	49⅛	47¾	49⅛	+ ⅞
31	24	31⅜	24⅝	39¼	23¼	31¾	25	(sh)	20,000,000	N.P.	35cQ	Sept. 30, 29	Shell Union Oil	39,100	26⅞	27⅞	26½	27½	+ 1
25⅝	15⅛	25⅜	14¼	27¼	18⅛	40⅛	18⅛		$8,357,000	$10	40cQ	Sept. 14, 29	Simms Petroleum	12,100	33	33⅞	31½	32	—1¼
24⅞	15¾	22⅜	15	46¾	17⅜	45	31½	(sh)	4,501,915	N.P.	50cQ*	Oct. 15, 29	Sinclair Consolidated	99,100	34¼	36¾	34⅛	35¼	+ 1¾
99½	90	104½	97	110	102½	111	107		$16,604,600	$100	$2Q	Aug. 15, 29	Sinclair Consolidated pfd.	300	109	109	109	109	...
37⅛	26⅝	37⅜	24⅛	42⅝	25	46½	32⅞		27,396,590	25	50cQ	Sept. 16, 29	Skelly Oil Co.	18,100	41½	41⅞	40	41	+ 1¾
63⅝	51½	60⅜	50⅜	80	53	81⅞	64	(sh)	12,594,098	N.P.	65½cQ	Sept. 16, 29	Standard Oil of Cal.	38,100	74¾	77½	74½	75	+ 1⅛
46⅜	37½	41⅜	35⅛	59⅜	37¾	83	48		$611,120,700	$25	25cQ*	Sept. 16, 29	Standard Oil of N. J.	489,100	78	81¾	77⅝	79⅜	+ 1⅝
47¼	30⅜	34⅛	29¾	44¼	28¾	48⅛	37⅝		427,973,275	25	40cQ	Sept. 16, 29	Standard Oil of N. Y.	105,900	43⅝	46	43½	44	+ ⅜
41¾	30⅛	34⅞	30	77	31½	83¾	57	(sh)	1,206,073	N.P.	25cQ	Sept. 16, 29	Sun Oil	2,500	78⅞	80½	77½	80	+ 3½
..	..	..	..	..	..	24	16⅝		2,400,000	N.P.	.....	Dec. 20, 20	Superior Oil Corp.	17,500	18⅜	20	18	20	+ 1¾
58	48	58	45	74¾	50	71⅞	57¼		$211,076,650	$25	75cQ	Oct. 1, 29	The Texas Corporation	87,500	65⅞	67⅞	64⅛	65	+ ⅛
19½	12	18⅞	12	26⅝	12⅛	23⅞	15		8,380,340	10	.....	Jan. 3, 28	Texas Pacific Coal & Oil	5,200	14½	15⅞	15	14¾	— ⅛
39¼	27	29⅛	19	41½	19⅝	40	27⅛	(sh)	2,168,410	N.P.	20cQ	June 29, 29	Tide Water Oil Co.	No sales.					
103	87¼	90⅛	85	100⅛	86	97½	90		$20,705,200	$100	65½cQ	Aug. 15, 29	Tide Wat. O. Co. 5% pfd.	500	91⅞	93	91⅞	93	+ 1
27	20⅞	19⅛	15¾	25	14¾	23½	17½	(sh)	4,796,158	N.P.	.....	Aug. 1, 27	Tide Water Associated	1,900	17¾	19	17⅝	18¼	+ ½
5½	3	10⅜	3¾	14¾	7¼	15¼	9	(sh)	3,742,029	N.P.	.....	.....	Transcontinental Oil	120,600	12	13½	12	13⅜	+ 1⅜
58⅜	37¼	56½	39⅝	58	42⅜	57	45½		$94,798,100	$25	50cQ	Aug. 10, 29	Union Oil of California	41,600	55⅜	56	52¾	53⅛	— ⅞
120⅜	84¼	127½	94	128⅛	110	160	121⅞		31,061,200	100	$1.25Q	Sept. 3, 29	Union Tank Car Co.	1,600	152½	155¼	152½	152½	...
30⅛	23½	34½	24½	44⅞	26	42⅞	27⅜	(sh)	356,000	N.P.	50cQ	July 2, 29	Warner Quinlan	10,100	27⅛	30⅛	27⅛	29⅜	+ 1½
29¾	25⅛	27½	20	38	20⅛	38	30¼	(sh)	490,000	N.P.	50cQ	July 20, 29	White Eagle Oil & Refg.	3,700	33¾	35½	33⅜	35½	+ 1½
..	..	..	..	..	..	29¾	17		.....	....	.....	.....	Wilcox Oil & Gas	1,200	16⅞	18	16⅞	17¼	+ ¼

*Also extras. †Ex-dividend.

STANDARD OIL STOCKS ON NEW YORK CURB

1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low		Listed capital	Par value	Div. rate	Last paid	Stocks—	For week ended October 12 Sales	Open	High	Low	Last	Change
21	16	21⅝	17⅞	22⅜	14⅞	18	14¼		£4,126,460	£1	.....	June 6, 28	Anglo-American Oil	1,700	14⅜	15	14⅜	15	+ ⅛
..	..	3¾	¾	5	1¼	2½	1	(sh)	500,000	N.P.	.....	.....	Atlantic Lobos	200	1¼	1¾	1¼	1¾	+ ¼
76	65	69	50	56½	44½	46½	26		$1,000,000	25	$1S.A.*	Apr. 15, 29	Borne Scrymser	100	26¼	26½	26¼	26½	— ½
59½	42	60	45	76	53	74¼	58⅜		10,000,000	50	$1Q*	June 15, 29	Buckeye Pipe Line	400	66⅞	67⅞	66⅞	67⅞	+ ⅝
82½	65	126	76½	161	117	210	140⅛		3,000,000	25	$1Q*	Sept. 30, 29	Chesebrough Mfg.	100	181½	181½	181½	181½	—7¾
25⅞	17½	22⅝	16¼	23	16	29	16⅞		36,057,840	10	.....	Dec. 15. 27	Continental Oil	5,000	18¼	21½	18¼	20⅝	+ 1⅝
137	102	137	89	114	67	95	60		1,500,000	50	$1Q*	Sept. 16, 29	Cumberland Pipe Line	50	60	60	60	60	...
63¾	43	68½	47	88	64⅛	70⅛	55½		5,000,000	100	$1Q	Aug. 1, 29	Eureka Pipe Line	50	..	53	52	52	—5
32½	9⅞	13½	3½	13	4¼	6⅝	5		16,000,000	100	.....	June 30, 25	Galena Signal Oil	No sales.					
68½	52	68½	54	114¾	59¼	128	89⅝		73,117,577	25	30cQ*	July 1, 29	Humble Oil & Refining	10,800	115⅞	120⅝	115⅞	119	—4⅛
144½	125½	182	123¾	290½	176½	340½	285		20,000	100	10%S.A.	June 15, 29	Illinois Pipe Line	350	300¼	303¾	300¼	300¼	+ ¼
..	..	64¾	37¾	104	56¾	41	26⅝	(sh)	6,458,267	N.P.	12½c	Sept. 2, 29	Imperial of Canada	11,000	34⅛	37	34⅛	36⅜	+ 1⅝
72½	58	94½	61	91⅞	74⅜	28⅜	26¾		$5,000,000	$50	.....	Feb. 15, 29	Indiana Pipe Line (new)	700	31⅜	32⅜	31¼	32⅜	+ ⅛
35½	28¾	39	28¼	55	35	30⅜	22½	(sh)	7,123,144	N.P.	12½c	Sept. 25, 29	International Pet. (new)	30,400	25¾	29⅛	25¾	28⅜	+ 3⅜
20¾	12½	24	13½	32⅜	19⅜	25⅞	21⅛		$6,363,350	12.50	25c*	Sept. 16, 29	National Transit Co.	800	19⅛	28	19⅛	28	...
51½	27¼	44½	31¼	75	38½	85	70		5,000,000	100	.....	July 15, 26	New York Transit	100	15	15	15	15	...
80½	64	100	70	69	56½	63	52¾		2,000,000	50	$2S.A.	July 1, 29	Northern Pipe Line	250	53	53	50	51	+ 2½
67¾	55¾	67⅞	52	84	58½	77⅞	64⅛		60,000,000	25	50cQ*	Sept. 14, 29	Ohio Oil Co.	4,500	78	79½	77¾	78¾	— ⅛
24¾	15	39	12	84	28	44½	23⅛		10,000,000	25	75c	Dec. 15, 28	Penn Mex. Fuel	600	31⅞	32⅞	28	28	+ 1
....	....	....	....	....	....	50	37¾		.....	....	$1.25S	June 20, 29	Solar Refining (new)	100	37½	37½	37½	37½	— ¼
74½	61½	27¼	15½	19	15	22½	13		1,000,000	10	$10	Mar. 1, 29	Southern Pipe Line	100	22	22	22	22	+ ⅛
50	34½	41½	35	71⅞	36¾	69⅞	62		2,000,000	25	50cQ	Dec. 31, 28	South Penn Oil (old)	2,000	46⅛	49⅝	46⅛	48	+ 1
....	....	....	....	....	....	60¼	40⅜		.....	....	.....	.....	South Penn Oil (new)	.....	..	..	..	..	
56	47½	83	55½	102	70	70	62¾		3,500.000	100	$1Q*	Oct. 1, 29	Southwest Pa. Pipe Lines	No sales.					
70½	60½	81½	64⅝	95⅞	70⅞	63	51½	(sh)	18,000,000	25	62½c*	Sept. 16, 29	Standard Oil of Indiana	52,660	54⅜	57¼	54⅛	55⅝	+ 1⅞
36½	16½	20⅞	14⅝	37¾	15	26	18		8,000,000	25	.....	June 16. 24	Standard Oil of Kansas	17,500	24⅛	32⅜	24	31⅜	+ 7⅜
134⅜	108	130	111½	179¾	122¼	45¼	35⅛		17,012.559	10	40c*	June 26, 29	Standard Oil of Kentucky	40,400	42¼	46⅞	41½	45⅜	+ 3⅜
51⅛	42	49½	40	54⅞	39⅞	50¼	45½		4,559,850	25	62½cQ*	Sept. 20, 29	Standard Oil of Nebraska	500	48	48¼	47½	47½	+ ½
672	288	87½	72	134	71	129	110¼		14,000.000	25	62½cQ	Oct. 1, 29	Standard Oil of Ohio	600	113½	113½	112	112	— ¼
21	15	21	14½	23½	16	18	15		861,000	25	.....	Nov . 1, 19	Swan Finch Co.	No sales.					
109⅜	90¼	....	....	111	72	133¾	105½		125,619.000	25	75cQ*	Sept. 20, 29	Vacuum Oil Co.	11,800	118⅜	127⅜	118⅜	125⅝	+ 7⅝

*Also extras.

CONSIDER POLLUTION CODE

NEW YORK, Oct. 14.—Preparation of a code of good practice in the prevention of pollution will be considered at an organization meeting of the American Petroleum Institute's Technical Committee on Pollution Prevention to be held in the Statler Hotel at St. Louis, Mo., October 22. The session will convene at 10 a. m., it was announced by D. V. Stroop, chairman.

Other matters to be considered include the desirability or necessity of conducting further field or laboratory work along the lines of examination of existing separators, skimmers, traps and other devices for the prevention of pollution with a view to ascertaining minimum requirements, and of making a laboratory study of effluent waters with a view to recommending a standard method of determining the per cent of oil remaining in water after treatment.

CANADIAN FIELDS

(Continued from Page 52)

Commonwealth Petroleums has finished core drilling operations, which are reported to indicate a well defined closed structure. In two core drill tests strong gas pressure was shown around 500 feet. Contract for a commercial test is now being let; location is in Section 23-8-23w4. No. 1 test is the north end of the structure where a 500-foot uplift is indicated. Cable tools will be used.

Near Oyen, Fuego Oil Co.'s No. 1, Section 34-25-4w4, is reported at 3,165 feet with a second show of lighter crude and 2,500 feet of oil and water standing in the hole. It is cleaning and cementing off the water preparatory to a commercial test of the second oil sand.

In Suffield district, north of Medicine Hat, Ontario-Alberta Oil Co.'s No. 1 in Township 17-8w4, 17 miles north of Suffield, is unofficially reported to have encountered a show of crude oil at 3,100 feet. The show is black asphaltic crude and not in commercial quantities. The test will be carried deeper.

In the northern foothills, extensive filings have recently been made in the Brazeau River area west of Edmonton. It is unofficially reported that filings have been made by Imperial Oil, Ltd., Texas Oil Co., of Canada, Hudson's Bay-Marland Oil Co., Canadian Exploration Co. and Drumheller Syndicate. Imperial's acreage is largely in Township 47w21, with some in Township 26-20 and 26-21. Hudson's Bay-Marland's acreage is in Township 26, and Canadian Exploration Co. has acreage in Townships 44-18, 43-18 and 43-19. The area blanketed extends from the McLeod River through to the Blackstone River.

On the Waite Valley structure, southwest of Calgary, Great West Oils, Ltd. has sold 40 acres to Stadacona Oils, Ltd., for 100,000 shares and $4,000 cash. Stadacona's No. 1 will be started this fall. Great West's No. 2 was located some time ago in NW Section 35-19-3w5, and will be started as soon as financing now in progress is completed.

In East-Central Alberta, Premier Drilling Co. is completing a test taken over from the Globe Drilling Co. in the Pigeon Lake area west of Wetaskiwin, in Section 14-47-27w4. The same company is arranging to drill a test near Pekan; and will also put down a well for the Sarcee Syndicate on the Sarcee Reserve in the southern foothills.

Wainwright Field

In the Wainwright Field, Maple Leaf Oil & Gas Co.'s No. 2, LSD 1, Section 24-45-8w4, has been brought into production at 1,780 feet as a gasser good for 15,000,000 feet a day, but with some salt water. It may be cemented back or drilled deeper. As soon as the well is finished, the rotary outfit will be moved to Wainwright Petroleums' No. 1, LSD 6, Section 30-45-6w4. Fabyan Petroleums' No. 1, LSD 8, Section 24-45-8w4, is testing production at 1,838 feet.

Oil Selections, Ltd. has been organized under Dominion charter with 1,000,000 no par shares and will drill on acreage in the Wainwright Field. It has 240 on the main Wainwright fold and 80 acres on the Fabyan fold, in addition to acreage in other parts of Alberta. Officers of the company are: president, Fred A. Brandt; vice president, T. M. Mungowan; secretary-treasurer, F. M. Turner; directors, A. C. Galbraith, Peter Smith, W. J. Hohlstein. Acreage has been reported on by F. John Sur, geologist. Oil Selections' No. 1 has been located on the Shewchuck farm, LSD 2, Section 13-46-7w4, rotary derrick erected and camp is under construction.

Makes Producer

North West Associated's No. 1, LSD 6, Section 20-19-2w5, is in steady production at 5,410 feet and will probably make 300 bbls. a day or better on settled production. In this end of the field three new tests are being started in the Imperial group. North West Associated's No. 2, LSD 6, Section 20-19-2w5, is working on cellar and will probably use the rotary outfit from No. 1 for drilling. Royalite Oil Co.'s No. 24 is reported to have spudded in on the Royalite acreage just west of Commonwealth Petroleums' No. 2, and due south of the East Crest and Homestead wells. Lowery Petroleum's No. 2 has spudded in in Section 17-19-2w5.

Sioux City Oils' No. 1, LSD 10, same section, is drilling at 2,430 feet after encountering a show of light crude in the Dakota at 2,410 feet. Midfield Oil Co.'s No. 1, LSD 9, same section, is drilling at 2,732 feet. Freeman-Lundy Syndicate's No. 1, LSD 10, same section, is drilling at 4,100 feet. This test got a show of light crude, possibly good for between 30 and 40 bbls. a day, in the McDougall-Segur sand, with smaller shows in the upper horizons.

Widney Petroleums' No. 1, LSD 11, Section 12-20-3w5, struck a strong show of light crude in the McDougall-Segur sands at 3,160 feet. It was estimated good for 50 to 60 bbls. a day flush production. The oil is being cased off and drilling will be continued to the lime horizon, but production from the upper sand may be taken later.

Sentinel Oil Co.'s No. 1, Section 8-20-2w5, is reported drilling at 5,500 feet with some shows of oil and gas. Structure Oil & Gas' No. 1, LSD 7, Section 31-19-2w5, is drilling at 2,015 feet and carrying 12½-inch casing behind the bit. Mid-Royal Oils' No. 1, LSD 4, same section, is drilling at 1,300 feet.

Vulcan Oils' No. 1, LSD 11, Section 13-20-3w5, has been shot in the deep lime loosening the tools so that fishing may be attempted. The well has been making a little crude naphtha from the lime at 5,004 feet.

North Turner Valley

In the north Turner Valley, Spooner Oils' No. 1, Section 24-20-3w5, is being shot in the deep lime to restore production. The well got a wet gas flow 290 feet in the lime estimated 15,000,000 feet a day, with around 100 bbls. crude naphtha, but the recovery has gradually declined to around 30 bbls. Spooner's No. 3 same section, is drilling below 100 feet and preparing to shut off surface water. United Oils' No. 4, LSD 2, Section 24-20-3w5, is at 5,385 feet and cleaning out preparatory to taking production from the Dalhousie sands. It has been bailing 20 to 30 bbls. and may make 60 on settled production. United's No. 5, same LSD, is reported working on derrick; George W. Snyder will handle the drilling contract. Dome Oils' No. 1, Section 24-20-3w5, is drilling at 4,440 feet. Vimy Oils' No. 1, LSD 7, same section, is drilling at 2,520 feet.

Dalfin Petroleums' No. 1, LSD 12, Section 34-20-3w5, is drilling at 2,771 feet. Vanalta Oils' No. 2, LSD 4, same section, is at 2,051 feet and drilling. Calmont Oils' No. 5, LSD 3, same section, is drilling at 3,974 feet; and No. 9, LSD 1, is cleaning out at 4,583 feet. Vanberta Oils' No. 1, SW Section 35-19-3w5, has a fishing job at 700 feet. Invader Oils' No. 1, LSD 10, Section 9-21-3w5, is cementing casing at 2,530 feet after encountering shows of gas and oil near the Benton-Dakota contact at around 2,400 feet. Vanguard Oils, Section 34-19-3w5, is rigging up. Roselite Oils' No. 1, Section 27-19-3w5, is drilling at 835 feet.

Outwest Petroleums' No. 1, LSD 5, Section 35-19-3w5, is reported underreaming after encountering a show of gas in the Home sands at 3,330 feet.

In the Morley Reserve area, Wabash Oils' No. 1 which entered the Madison lime at 1,483 feet, is reported to have passed into the Devonian at 2,800 feet. Some 1,317 feet of the lime showed only a comparatively small production of wet gas, chiefly in the upper horizon. Drilling will probably be continued for a test of the Devonian, which is petroliferous in other fields. Norcon Oil Co.'s No. 1 got additional shows of oil and gas in the McDougall-Segur sand at around 1,585 feet and is drilling at 1,590 feet. Gold Coin Oils' No. 2 is sidetracking lost bit at 1,030 feet.

On the Herron structure, Herron Petroleums' No. 1, is drilling in the Dakotas at 280 feet after making two water shutoffs. On the Moose Dome, 45 miles west of Calgary, Moose Oils' No. 1, LSD 16, Section 29-22-6w5 encountered a second gas flow in the Devonian lime at 500 feet. Two of the drillers were gassed and one had to be taken to the hospital. The test started in the Banff shales and got the upper Devonian at 450 feet. Later the gas flow, estimated 500,000 feet a day, was flooded off by water and drilling resumed.

On the Calling Valley structure, Anglo-Indian Oils' No. 1, LSD 4, Section 31-21-3w5, has camp finished and is hauling derrick materials. On the Rickert structure, Paramount Oils' No. 1, LSD 2, Section 28-19-4w5, is down 1,505 feet and reaming.

In the Pincher Creek area, Weymarn Petroleums' No. 2 is making location.

In the border fields west of Coutts, Vanalta Oils' No. 1, Section 4-1-16w4, on the Red Coulee structure has made a test of the crude show encountered at 2,470 feet. The well made 61 bbls. in 18 hours and is estimated good for 75 bbls. a day. Production will be taken at this depth, and No. 2 started, offsetting No. 1. Vanalta's contract calls for three tests on the Alberta Pacific Consolidated acreage. The crude is reported similar to that of the Kevin Sunburst Field, and was struck about 80 feet below the gas sand, where a flow of around 3,600,000 feet a day was encountered.

May Open New Field

The Vanalta producer seems likely to open an important new field of real crude, which is possibly the long sought northern extension of the Kevin-Sunburst Field. On the same structure, Hol-Gar Petroleum Co.'s No. 1 is rigged up in LSD 1, Section 11-1-17w4 and Ko-Top Oils' No. 1 in Section 2-1-17w4. Imperial Oil's Red Coulee No. 1 was drilled some years ago in Section 5-1-16w4, got an oil show but was later abandoned owing to water troubles. One geological theory holds that the Red Coulee structure is a double fold, the Imperial test being located on a syncline. J. E. Taylor and associates have secured acreage on the structure and are planning to put down a well; and it is possible that Alberta Pacific Consolidated Oils may later drill on its present acreage.

In the Skiff Field, Dauntless Oils' No. 1, LSD 9, Section 36-6-15w4, is reported drilling in a caprock overlying the Ellis, with a show of oil, estimated good for around 30 bbls. already cored in the Sunburst sand.

On the Beaver Dome, Madison Oils' No. 2, LSD 10, Section 24-2-11w4, is reported drilling close to 2,000 feet. Milk River Oils, Ltd. has tentatively located No. 1 well in Section 11-2-11w4. Officers of Milk River Oils, Ltd. include W. S. Henderson, president, and F. L. Major, managing director. The head office is at Calgary.

BRITISH COLUMBIA

In British Columbia, Akamina Valley Oil Co. of Vancouver is preparing for three tests in the Akamina Valley just across the Alberta boundary from Waterton Lakes Park. This is close to acreage tested at the time of the South East Kootenay oil boom about 1903. A camp is being built three-fourths mile up the valley from the abandoned Columbia Oil Co.'s test at Gloyn's camp on Akamina Creek. Contract is being let for No. 1 test, to spud in this fall; and the company is planning to drill at least three wells. A Toronto syndicate has subleased 1,000 acres from the Akamina company near Wall Lake and is planning to drill two tests, which may be started this fall. Good shows of light crude, some of them approaching commercial production, were encountered in several wells drilled in this area more than 25 years ago.

In the Sage Creek district, southeastern British Columbia, Frederick G. Leonard, vice president of Crow's Nest-Glacier Oil Co. reports as follows on the company's No. 1 well. "The well was shot at a depth of 3,265 feet on September 9, having first been filled to the top with water. Following the shooting gas pressure and some oil with large quantities of paraffin wax were immediately released. For the first two or three days the well was kept full of water and tools were run to clear bridges. During this period gas and oil continued to increase. We then decided to bail out, but when bailing was commenced we found it impossible to lower the level of the liquid in the well more than 10 feet or thereabouts below the top of the casing. Bailing was continued steadily for 12 hours and at times during this period the well flowed naturally, sometimes the liquid rising to 25 to 30 feet above ground level. During this period large quantities of oil were taken out, amounting to several hundreds of barrels. Following this 12-hour period, the well bridged again. On September 26, when it was thought our drillers were on the point of clearing the well the cable broke and we suspended operations until the arrival of a new cable. We expect the bridge will be drilled out in two or three days after drilling is resumed." In the same area Crows Nest-Glacier's No. 2 has been located, and Majestic Oil Co. has located its No. 1 well. The companies in the field are arranging to have the road from the boundary to the wells put in good shape. Material for the two drilling rigs is being moved in, and these tests are expected to spud in early next spring.

ROCKY MOUNTAIN AREA

(Continued from Page 53)

Oil Co. drilled a deep test on the NW NW, Section 27-3n-1w, in which it had 2,000 feet of oil standing in the hole at 2,970 feet, believed to be coming from the Mowry shale just above the Muddy, the first sand of the Dakota series. It was deepened to 3,205 feet at which depth it was abandoned with water in the hole. Whether this water came from the Muddy or some other horizon was not certain. The hole had been reduced until the last footage was made with 2¾-inch tools.

Last year the Texas Production Co. made an important discovery in the Dakota series on the Alkali Butte Dome, 50 miles to the southeast of Pilot Butte. The Kinney-Coastal Co. then made a deal with lease owners on the Pilot Butte Dome, including the Argo Co., and last December spudded in its No. 1 Dykeman with the intentions of making a deep test, going through the Dakotas and Morrison to the Sundance. Last month the hole ran into some shale oil accompanied by gas at 3,317-40 feet. The showing was shot and after cleaning out looked as if it would make a 40 to 50-bbl. pumper. The oil was supposed to be coming from the Mowry shale about 100 feet above the Muddy sand. The hole was then cored 27 feet deeper and the gas increased, being estimated at between 5,000,000 and 10,000,000 feet. Some oil from the upper horizon also was sprayed with the gas. It was decided to shut down, install control head, flow lines, move back the boiler and prepare to drill into the Muddy. Saturday night the tools were left in the hole to keep down the pressure and when work was resumed Monday morning it was found that the gas had pushed the tools up the hole 1,000 feet and to have bridged the hole. The gate was open when the workmen were trying to loosen the tools when the well suddenly blew itself in. McGowan, who was at the throttle of the engine in the derrick house, was hurled a distance of 30 feet. The well went wild and at last reports was still blowing. Officials of the company are now at the well attempting to shut it in.

Fremont County

Other drilling wells in Fremont County include the following: The Texas Production Co.'s No. 1-A State, SW SW, Section 36-34-95, Alkali Butte, is straightening crooked hole at 620 feet, and the Producers & Refiners Corp.'s No. 9, C SW SW, Section 15-32-95, is drilling in sand at 2,318 feet. The Producers & Refiners is drilling a series of diamond drill holes on the Muskrat Dome upon which the company brought in a big gasser last fall. No. 9 of this series, on Section 16-33-91, is coring at 161 feet.

In Niobrara County, in the eastern part of the state, the Argo Oil Co.'s No. 7 Wehopeso, SW NW, Section 19-38-60, a test to the Sundance sand, is drill-

ing at 1,814 feet in the Morrison and is troubled with cavy ground. The 6¼-inch was set at 1,800 feet. The Sundance is expected at 2,300 to 2,500 feet. The Mule Creek produces from the Lakota sand of the Dakota series.

B. V. Hole and associates, who bought the old plant of the Alliance Oil & Refining Co. at Thermopolis some time ago, have received 12 carloads of equipment at Pedro in Weston County, and has started construction work on setting up the plant. The Hole interests have 16 producing wells at Pedro, the wells being good for 3 to 10 bbls. each at a depth of 400 feet. Two strings of tools are kept in operation. The plant will have a capacity of 500 bbls. a day and will produce lubricating oils as well as a high test airplane gasoline.

The Rocky Mountain Gas Co., a subsidiary of the Ohio Oil Co., has purchased the Lovell Gas Co.'s gas production on the Byron Dome in Big Horn County, including two gas wells, its lines in the field and distributing lines in the town of Lovell. The Byron-Lovell line is 8 miles long and consists of 5⅝-inch pipe. A branch supplies a sugar factory at that point. The company also has a 6-mile 2-inch pipe to Cowley where gas is sold to the local distributing company. The Rocky Mountain Gas Co. has a 6-mile 4-inch line which supplies the town of Powell. The deal includes the Lovell company's gas leases, but not the oil rights.

Salt Creek Bids

The Wyoming State Land Board has announced that it will not award the lease on Section 36-40-79, in Salt Creek, for which bids were received on September 30, until after October 21. On that date the board will receive bids for the royalty oil not only from Section 36 but from other state leases. Two companies submitted bids for the lease on Section 36. The Midwest Oil Co. made three proposals. The first provided for a royalty of 65 per cent to the state, but contingent upon agreement to permit the company to purchase the state's share of the oil at Mid-Continent posted field prices. The second proposal provided for a flat royalty of 50 per cent to the state under the same plan in effect under the lease which expired September 30. This would permit the state to take the royalty oil in kind and dispose of it upon whatever terms it could arrange. The third proposal was a royalty of 62½ per cent, provided 50 per cent of the oil taken from the section was sold to the Midwest at posted field prices, and 12½ per cent going to the state or its nominees. The White Eagle Oil & Refining Co. was the other bidder. It offered a royalty on the basis of that paid to the federal government which is governed by the size of the well and the gravity of the oil, but which averages around 13½ per cent for the entire field. This bid was complicated with conditions which involved the payment of $1,160,000 for permanent improvements on the lease out of royalty.

In Uinta County, in the southwestern part of the state, E. L. Doheny and others' No. 1, C SE, Section 6-14-118, Aspen structure, was completed as a small pumper at 2,600 feet. It was planned to carry this test to 3,500 feet when the Doheny interests became identified with the operation which had been drilled to around 2,000 feet by the Deseret Oil & Refining Co., but the hole had been reduced and the 4¾-inch was being carried at last reports. P. L. Cooper and others' No. 1, NE Section 19-18-117, La Salle district, was abandoned at 1,300 feet. It had water in the Frontier at 1,085 feet. W. A. Meyers and others' No. 1, NE NW NW, Section 26-13-119, Hilliard Flats, is an abandoned location. The California Co.'s No. 1 Union Pacific, NE NW, Section 7-17-116, Muddy Creek, is bottomed at 4,365 feet and cleaning out.

Sublet County

There is comparatively little activity in Sublet County at this time, the California Petroleum Co. at La Barge having finished up its summer drilling campaign. The Midwest Refining Co. has completed the enlargement of its loading racks at Opal from 10 to 15 cars capacity. This company runs the oil from La Barge and ships it to the Utah Oil Refining Co. by rail from Opal to Salt Lake City. Shipments in September were 407 cars against 373 cars in September, 1928, an increase of 34 cars.

In Lincoln County, the Midwest Refining Co.'s No. 1 Little Grays River, SE Section 25-37-117, is bottomed at 1,647 feet and is cleaning out and running the 10-inch casing.

In Carbon County, the Midwest Refining Co.'s No. 31 Dutton Creek, SE Section 1-18-75, is drilling at 1,190 feet in gray shale and showing a little water. The Producers & Refiners' No. 2 Mahoney Dome, SE NW, Section 34-26-88, is drilling in shell at 3,305 feet, and its No. 3 Grenville Dome, Section 28-21-86, is bottomed at 870 feet and making a water test. The 4¾-inch is at 785 feet.

In Big Horn County, the Producers & Refiners Corp.'s No. 3, NW NW, Section 24-56-98, Garland Dome, joint with the Kinney-Coastal Oil Co., has recovered tools and is drilling ahead slowly at 4,218 feet in sand making large quantities of gas.

In Hot Springs County, the Texas Production Co.'s No. 1 Skelton Dome, NW SW, Section 23-45-100, is drilling at 3,754 feet, and the Midwest Refining Co.'s No. 8 Wagonhound, NW SE, Section 6-44-98, is drilling at 1,008 feet with 700 feet of water in the hole.

In Park County, the California Exploration Co.'s No. 2, NW NE, Section 14-48-102, Pitchfork structure, is drilling in an 8¼-inch hole at 1,965 feet, and the Midwest Refining Co.'s No. 1 Rosenberg, NE cor. Section 26-58-98, Frannie Dome, is drilling at 2,090 feet in gray shale. The Resolute Oil Co.'s No. 1 Badger Basin, SW NE, Section 17-57-101, is drilling in shale at 3,875 feet and due to reach the Frontier at 4,500 feet.

IDAHO

The Monida Oil Co., (Fred G. Ostland and others) commenced spudding on October 5 in its No. 1, NE Section 32-14-36, Beaver Dome, Clark County, Idaho, in a test to the Embar horizon expected at 2,600 feet. This test is 70 miles north of Idaho Falls. The Grand Teton Oil Co.'s No. 1 Blevins, SW Section 33-5n-44, Horseshoe Dome, Teton County, is bottomed at 1,250 feet, with the 12½-inch at 1,130 feet and reaming at 1,148 feet. The California Co.'s No. 1 Sorensen, NW SW, Section 33-3n-41, Meadow Creek Dome, Bonneville County, is standing cemented at 3,550 feet.

MONTANA

Two small oil producers and one gas well were completed in the Kevin-Sunburst Field the past week. The Monopeg Oil Co. brought in its No. 2 Dipple on Section 28-35-1, with a production estimated at 25 bbls. The Ciara Oil Co. completed its No. 7 Wait on Section 24-35-1, and has well good for approximately 30 bbls. after a shot. The Tom Davis Syndicate's No. 11 Bruins on Section 10-35-2, found a gas flow in the Sunburst but drilled on to the Ellis without finding oil. The well was plugged back and will be saved for gas. The Ohio Oil Co.'s No. 10 on the Bruins lease, completed last week, will make a 45-bbl. producer.

There will be a number of wells drilled in the Kevin-Sunburst Field this fall. L. W. Hill, chairman of the board of directors of the Great Northern Railroad, will drill five more wells on the McManus lease where the Hill interests completed one producing well this year. The Ohio Oil Co. spudded its No. 10 Emmert this week and the Deloraine Oil Co. is starting its No. 9 Levnick. The Franklin Oil Co. spudded on the Ludwig lease in Section 6-33-1, and the Ferdig interests' No. 23 Anderson was also spudded this week. The Texas Pacific Coal & Oil Co.'s deep test has been delayed by a crooked hole and has reached a depth of less than 1,400 feet. It is the intention of the operators to carry this hole to 5,000 feet.

The Midwest Refining Co. completed another gas well on the Bowes Dome, which supplies gas for the Havre-Chinook line. The new well is No. 6 on the SE of Section 9-31-19, completed at 1,130 feet. Production is given as 17,500,000 feet with a shut-in pressure of 250 pounds.

The first completion recorded for the Cat Creek Field in many weeks was the L. R. Carroll well on the Fifer lease in the NW Section 21-15-30. The new well is located in the eastern part of the field between two producing wells. Oil was found in both the first and second sands, the first pay at 780 feet and the second at 980 feet. No test has been made but the well is reported good for 30 or 40 bbls. The rig will be skidded to a new location.

Watford's No. 1 on the Bears Den structure in the Sweetgrass Hills, completed some months ago by the Bears Den Oil Co. and the Sunburst Oil & Refining Co., was given a shot and is reported to have more than doubled production. The well was rated as a 40-bbl. producer when it was drilled in and production is now estimated at 100 bbls. The sand was picked up in this well at 2,545 feet.

No test has been made at the Drumheller Yunck well on Section 1-34-8, near Cut Bank, 15 miles west of the Kevin-Sunburst Field. The well was shot last week and made a brief flow. It is expected to make a commercial producer.

The Monalta Oil Co., a half mile south of the Canadian border, is drilling below 2,000 feet and completion is expected within a week. This well is less than a mile from the Vanalta well which is looking better with 300 feet of oil in the hole.

The joint test of the Montana Corp. and the Texas Pacific Coal & Oil Co. on Freedom Dome, 17 miles south of Jordan, is drilling below 1,200 feet. The two companies control 14,000 acres on the structure. The operators plan to carry the well to the Madison lime and arrangements have been made to drill to 5,000 feet if necessary.

The Carter Oil Co. has made good progress with its test on the Six Shooter structure and reports a total depth of 3,475 feet.

J. W. Bales of Billings is starting a test well on the Dry Creek structure in southern Montana about three-quarters of a mile from the Ohio's No. 2 which is drilling at 3,900 feet.

Rocky Mountain Fields

Daily average pipe line runs week ending October 12:

WYOMING	
Salt Creek	32,470
Frannie	30
Big Muddy	2,280
Oregon Basin	5,200
Byron	...
Dutton	30
Elk Basin	730
Ferris	30
Grass Creek	2,150
Greybull	10
Hamilton	1,000
La Barge	2,670
Lance Creek	180
Lost Soldier	4,140
Osage	810
Poison Spider	750
Rock River	2,360
Rex Lake	70
Lander	530
Simpson Ridge	120
Teapot Dome	40
Mule Creek	630
Pilot Butte	180
Total	56,310
MONTANA	
Cat Creek	1,270
Kevin-Sunburst	6,880
Pondera	2,590
Lake Basin	50
Total	10,790
COLORADO	
Moffat	1,261
Fort Collins	1,919
Florence	765
Iles	1,101
Tow Creek	431
Boulder	25
Rangely	100
Total	5,602
NEW MEXICO	
Artesia	842
Cap Rock (Maljamar)	415
Hogback	400
Rattlesnake	1,684
Table Mesa	118
Total	3,459
Grand total	76,161

SCIENTIFIC DISPLAY CREATES INTEREST

(Continued from Page 30)

current is supplied from a set of cells at the surface and conducted to the case in the hole through a water and oil-proof cable.

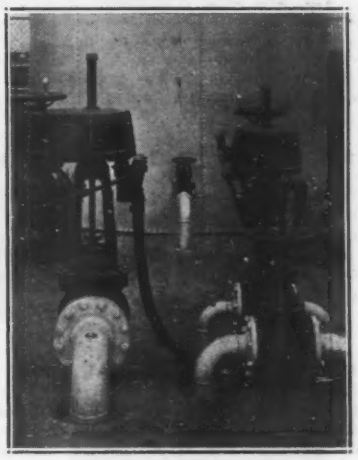
This camera uses the regular type of motion picture film and the exposures are made as the instrument goes into or is drawn out of the hole, the method of taking the readings being under the control of the operator at the surface.

Because the time interval between exposures is known the position of the graduated sphere that is photographed can be correlated with the position of the instrument in the hole and the readings are translated into the degrees of inclination of the well from the vertical but the direction of the inclination is not recorded as the instrument can swing free in the hole at all times and spin on its suspending cable.

The Driftmeter recently described in The Oil and Gas Journal was also shown in this booth along with the Inclinometer designed by M. M. Kinley which has also been described in the Journal.

Dynamometers Shown

On the other side of the dividing compartment of the booth the various types of dynamometers were shown and consisted of the Chatillon dynamometer with the recording attachment as designed by



Electrically operated gate valves.

H. D. Collins of the Gypsy Oil Co. Tulsa, the Temple Dynamometer designed by C. V. Temple of the Humble Oil & Refining Co., and described on page 38 in the September 5 issue of The Oil and Gas Journal.

The Barnsdall Oil Co. exhibited a recording device worked out by its engineers to be attached to the Temple Dynamometer which makes a card of the load conditions during the test period.

The Martin-Loomis dynamometer described in an article starting on page 41 of the June 27 issue of The Oil and Gas Journal was also displayed in this booth as well as the dynamometer designed by the engineers of the Pure Oil Co. and told about in the May 30 issue of the Journal, page 33.

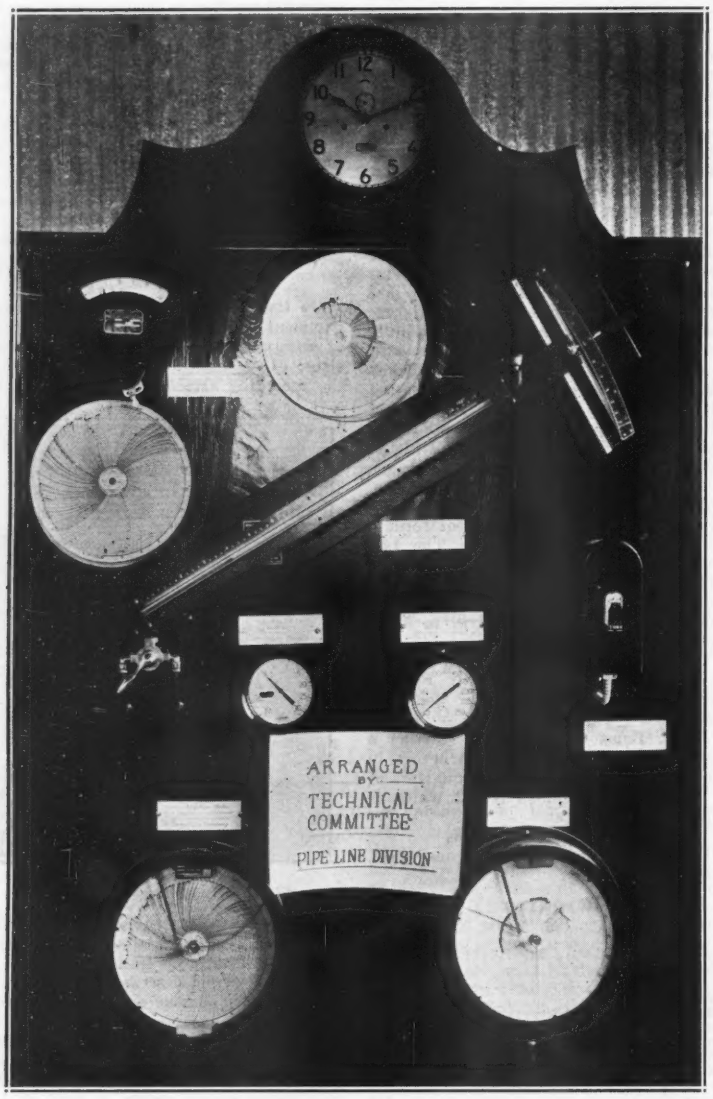
The McCollum-Peters Electric Telemeter was displayed in this booth and the application of a part of this apparatus to a dynamometer used for weighing wells has been described in a paper by F. W. Lake, "Determining Deep Well Pump Action" presented before the Chicago meeting of the American Petroleum Institute last December and printed in The Oil and Gas Journal December 13, 1928, page 34.

Other apparatus displayed consisted of various laboratory instruments, such as, Sargent's wet test meter, A.S.T.M. Crude Petroleum Distillation Apparatus, Oil and Mositure Apparatus, Reid Vapor Pressure Bomb for gasoline vapor pressure above atmosphere, Saybolt Thermo Viscometer for viscosity of gasoline and kerosene, penetration apparatus for bituminous materials and the Consistometer.

The Tulsa Fine Mechanic Shop showed a dead weight tester of the portable type

that weighs complete with all weights and tools only 50 pounds and will make a dead weight test of pressure gauges of from 5 to 1,000 pounds. This instrument works on hydaulic principles and the fluid medium is heavy oil either cylinder, castor or nujol.

F. E. Sackrider of Oklahoma City exhibited a hydaulic pressure recording gauge of new design for registering the pressure used in setting up drill pipe in rotary work. This device consists of a hollow cylinder of steel to one end of which is attached hooks for fastening the tongs and on the other end there is an eye for the jerk line. As the pressure is applied to the apparatus by pulling on the jerk line the resistance encountered in setting up the joint is transmitted by means of a rubber to a recording gauge set at some convenient place upon the derrick floor and by this method each joint is made up at approximately the same pressure. An alarm bell is attached to the device to indicate when the predetermined pressure for making up the joint is reached.



Panel No. 1.

The Vallez filters were displayed as well as a gas analysis apparatus for higher hydrocarbons such as were described on page 142 of the October 18, 1928, issue of The Oil and Gas Journal.

Automatic Station

Just outside of the Scientific and Technical Building on the south side is an enclosure that contains apparatus that would seem to indicate that the dream of the pipe line man for an automatically controlled pump station has been materialized in the automatic pump station installed under the direction of the Pipe Line Section of the Scientific and Technical Committee of the Exposition.

This exhibit consists of two bolted steel tanks, one 16 feet high and the other one 8 feet in height set opposite each other with a set of motor driven gate valves that are actuated by electric control, housed in a small portable building, this building also containing the motor-driven plunger pump.

At one side of the building there is a panel upon which is mounted a liquid level control that starts and stops the motors that drive the gate valves and the pump. When a predetermined level of fluid is reached in the smaller tank the current is turned on automatically and one gate valve is closed and the other opened and the water used in this system is allowed to flow back from the large to the smaller tank.

On this panel there is also mounted the automatic tank gauge that is non-recording, the indicating pressure and vacuum gauge, the indicating pressure gauge and the recording flow meter and pressure gauge.

This panel also contains a Tork clock that can be set to start motors at any predetermined time, day or night, so the pumper can arrange to have the system cut into operation whenever he deems it necessary.

On another panel set along the east wall of the building there are several instruments mounted to indicate the amperage, voltage and wattage of the electric current used, but these are not recording and are merely for the purpose of giving the pumper information when he is in the building.

This panel also contains a set of high and low pressure regulators that are the heart of the system and something new and first assembled into an outfit of this kind and by their use make it possible to shut down the pumps if the line builds up pressures that are too high or if the pressures drop below a predetermined point as for instance would happen if there was a leak in the line.

This regulator is equipped with an alarm bell that will start ringing when either type of trouble is experienced and continue to give a signal to the pumper until he corrects it and then starts the motors again by resetting the regulating device.

On the south wall of the building there is a control panel for the operation of the motor driven gate valves and this is equipped with a set of signal lights, red, green and white, that indicate at a glance just what position the gate valve is in. This control can be used for several valves.

The plunger pump is of the 5-inch by 10-inch size with a capacity of 250 bbls. and is driven by means of a Texrope by a 25 horsepower, 3-phase, 60-cycle 440-volt motor.

The different units going to make up this complete installation have been used separately in several pump stations in the oil country but this is the first instance when they have all been assembled into one station although it is understood that similar stations are being used by some of the major pipe line companies at this time.

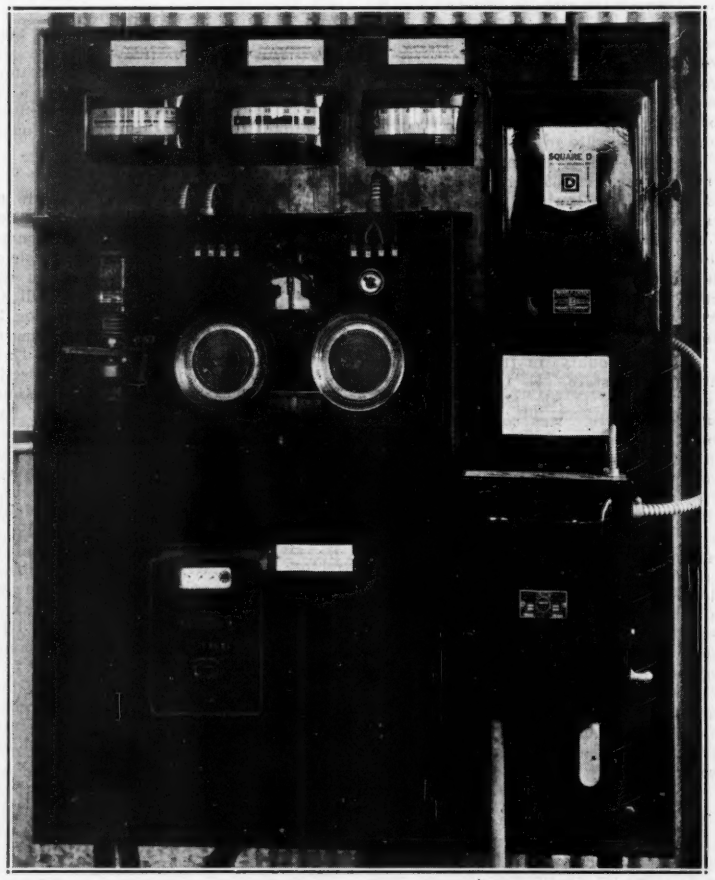
This system will permit the installation of a booster station between two main line stations that can be cut in by building up pressure in the line so that the high and low pressure regulator will cut in because of the line pressure that is intentionally raised above the predetermined working pressure in the line.

Or another hook-up will permit a field gathering station to be so regulated that oil can be picked up from the field tanks at any hour desired by setting the Tork clock to cut the current into the equipment when required. In this way the pumper can set his station to start gathering oil at 6 p. m. and pump through the night and deliver the oil into a set of line tanks and when these line tanks contain a predetermined level of oil, they will be cut into the main gathering line by the other set of automatic controls.

The various units of the system will later lend themselves very nicely to installation at the central pipe line dispatcher's office for remote control and by throwing the switches operating the distant valves in and out of contact the oil can be gathered or pumped as desired, as overloading or under pressuring are automatically taken care of by other parts of the equipment. It is quite probable that the radio remote control system will be introduced later saving the cost of electric lines from the distant stations to the central office.

Panel No 3.

A good deal of the work of designing of assembled units has been done by J. H. Tubbs with the Shaffer Oil & Refining Co., and T. D. Williamson of the Petroleum Electric Co. of Tulsa, together with



Panel No. 2.

the manufacturers of various pieces of electrical equipment.

It is intended to leave this automatic pump station in place for some time after the exposition closes so that others interested may examine it. Mr. Williamson will be glad to show it at any time.

Government Exhibit

The United States Bureau of Mines, Bartlesville station, had space in the Scientific and Technical Building where they had two lay figures dressed as workmen illustrating the approved method of creating artificial respiration. In addito this daily demonstrations were made of the effect of hydrogen sulphide gas with a concentration of about 10 per cent in air upon white rats. One rat evidently had a weak heart and nearly passed out entirely but otherwise the demonstrations were quite successful. Charts of gas systems and a flow sheet of a refinery showing products produced at different stages of the process were also exhibited as well as a small bubble tower apparatus.

The Louisiana state geological department had a booth that attracted considerable attention because of the fact that they exhibited a set of 23 tools with square bar iron drilling rods used in drilling a 400-foot-deep water well that passed through four gas sands in Louisiana in 1821. These tools were all made by a negro slave blacksmith in a small forge shop using manual labor entirely, and their neatness of design and workmanship is quite noticeable. Even after this long period it is worthy of note that the iron used is still in a comparatively good state of preservation. A story of these tools was run in The Oil and Gas Journal some time ago.

The Oklahoma Geological Survey and the Tulsa Geological Society had their usual display of specimens of rocks and maps in this building. The Kentucky Geological Survey also occupied a booth in the Scientific and Technical building and the various engineering societies such as the American Association of Engineers, American Petroleum Institute and American Institute of Mining and Metallurgical Engineers had exhibits.

The exhibit of the technical department of the Tulsa Public Library has become a definite part of the exposition and they had their usual type of display in the Scientific and Technical Building with Miss Florence Lundell in attendance. It was interesting to note the very general interest this Technical Department has created and how many revisited this booth to renew acquaintance and review what is new in petroleum literature since last year.

It is understood that the exposition management intends to set aside more space next year for exhibitions of a scientific and technical nature for the interest manifest this year and the crowded condition of the booths indicates quite clearly that this department should be expanded.

J. C. LOOKER AND MARTIN MORAN GRAND OLD MEN

(Continued from Page 31)

Tulsa president emeritus. Mr. Horrigan has been largely instrumental in bringing The Pioneers to their present number. The leaders in the movement, including Mr. Horrigan, have in mind the building of a home for aged oil men. This plan has often been advanced but never took concrete form. More serious attention is being given to it now than ever before and its sponsors hope for a successful fruition of their efforts.

The Pioneers who registered at the Exposition grounds up to the time ot the meeting were as follows:

F. L. Hicks, Tulsa; J. H. Evans. Tulsa; M. C. O'Brien, Ramona; John Champion, Sapulpa; L. J. F. Rooney, Tulsa; Lee M. Beatty, Bartlesville; J. E. Bower, Tulsa; George W. Shade, Tulsa; W. J. Jones, Franklin, Pa.; John Markham, Sr., Tulsa; F. W. Robinson, Jenks; Greeley D. Benedict, Pleasantville, Pa.

J. A. Boiler, Tulsa; E. H. Sloan, Emlenton; E. E. Klahr, Casper, Wyo.; C. P. Brant, Indianapolis, Ind.; A. B. Shannon, Ranger, Tex.; Capt. Alex Stephenson, Tulsa; W. J. Stewart, St. Louis, Mo.; Talcott H. Strate, Okmulgee, Okla.; Martin Moran, Tulsa; S. R. Millard, Tulsa; J. S. Follett, Tulsa; C. W. Atkins, Warren, Pa.; J. R. Seopold, Spring Creek, Pa.; Peter Fertig, Monrovia, Calif.; John N. Crawford, Parkersburg, W. Va.

Daniel Gould, Cleveland, Okla.; Ed Downing, Drumright, Okla.; F. C. Canniff, Tulsa; Ira H. Gibbons, Tulsa; C. H. Nason, Traverse City, Mich.; Alex Wilson, Brownwood, Tex.; C. H. Vogan, Tulsa; E. J. Gilson, Tulsa; P. Cunningham, Tulsa; C. E. Beeman, Tulsa; Ed Miller, Tulsa; C. T. Mapes, Pittsburgh, Pa.; Thomas C. Kelly, Sapulpa, Okla.; J. M. Fast, Collinsville, Okla.; J. P. Sinclair, Humbolt, Kans.

J. B. Sinclair, Walters, Okla.; J. G. Gillespie, Tulsa; Henry Metzer, Muskogee, Okla.; C. W. Gillespie, Turley, Okla.; M. J. Allworth, Oilton, Okla.; W. P. Gillispie, Tulsa; H. C. Mays, Red Fork, Okla.; John Champion, Tulsa; Harry J. Anderson, Maud, Okla.; W. H. Bradley, Keifer, Okla.; Samuel C. Law, Mounds, Okla.; Daniel Reid, Shidler, Okla.; C. H. Rathbone, New York City; P. L. Clink, Ponca City, Okla.; Frank Horton, Tulsa; J. V. Burns, Tulsa; John A. Connelly, Muskogee, Okla., and John Daly, Drumright, Okla.

At last year's exposition, James Amm, of New York, retired, was named grand old man of the oil industry of the world, and J. H. (Uncle Joe) Evans of Tulsa, president of the Devonian Oil Co., grand old man of the oil industry in Tulsa.

The Pioneers Club, made up of oldtime oil and gas men, is pictured above. In the foreground are James P. Flanagan, William G. Skelly, president of the International Petroleum Exposition and Congress, and Barney E. Horrigan, all three of whom had much to do with making the reunion of oldtimers a success.

ANTIKNOCK TESTING AND PERFORMANCE

(Continued from Page 33)

ation of knock testing engines at the lower speeds.

10. The displacement should be small to permit the use of a piston of small diameter and the testing of small fuel samples.

11. The crankshaft, connecting rod, and bearings should have ample strength to withstand for long periods of time the shock produced by detonation.

12. Suitable instruments should be provided for indicating engine conditions especially combustion chamber temperature and intensity of detonation.

13. The machine should be as simple and cheap as possible consistent with durability, accuracy, and reproducibility of ratings.

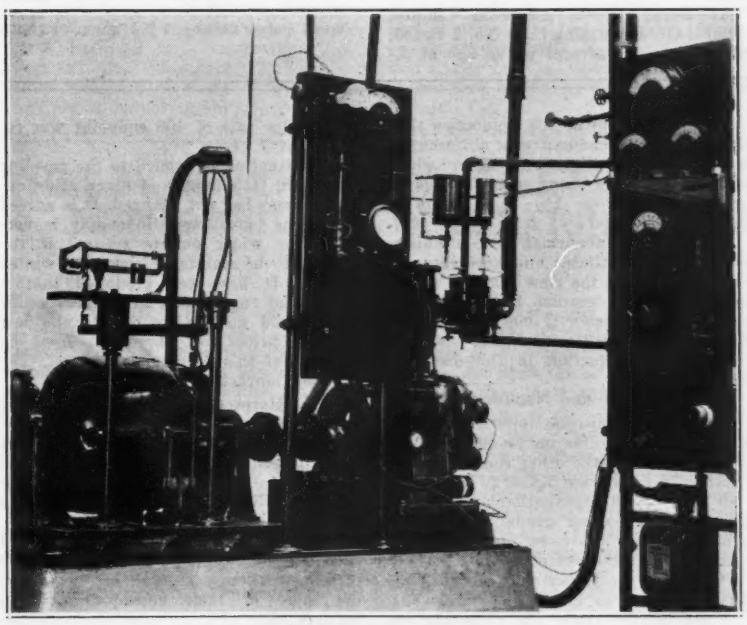


Figure 5—Variable compression detonation testing engine being developed by joint committee of A.P.I. and S.A.E.

The Ethyl Gasoline Corp., at its four testing laboratories, now employs 12 engines of the present design. Over a long period of time samples checked by the four laboratories have rarely varied in antiknock rating by more than 0.1 c.c. of lead tetraethyl per gallon which, on the basis of 3.0 c.c. of lead tetraethyl per gallon, is a variation of only about 3 per cent. It is believed that this performance is comparable to that of other apparatus used in oil and automotive laboratories. The use of the new machine described should result in even closer agreement among laboratories which use it.

SAFE LOADING OF TANK CARS DEMANDS CARE

(Continued from Page 133)

blue flag stop sign. This blue flag is not to be removed by anyone except those putting it out. This sign is one of the standard railway rules and should be adhered to very closely.

Coal-burning locomotives working on or near loading rack should be equipped with screens in the stack and around fire boxes to prevent gasoline fumes from being ignited by coal sparks. Engine crews on oil-burning locomotives should not sand the flues while working on the loading tracks. Hot soot from the flues may cause gasoline vapors to become ignited.

When it becomes necessary to spot cars by hand, standard car movers should be used. Ordinary pinch bars sometimes cause injured toes or fingers or perhaps a spark. After cars are spotted to the proper place they should be tied with the hand brakes and also blocked both ways.

Given "Once Over"

Before making any attempt to load a car with gasoline it should be given the "once over" to determine whether or not it is in a safe condition to transport the material which you may desire to ship. The test date of tank and valves should also be checked.

To get a tank car ready to load, first vent off any pressure that may be in the tank by opening vent plug or cock. When pressure is vented off, remove dome cover being very careful not to strike it against the side of the dome and causing the spark. The dome cover after removed

from dome should be placed on rack platform as there is danger of it falling if left on top of car and may cause someone to be injured. After the dome cover has been disposed of, the bottom valve should be given a slight grinding in order to give it a good seating; now take off the bottom cap and test the valve to be sure that it doesn't leak; next, if a loading cover is used, place it in position, being careful not to strike it against the dome or studs to cause a spark. As soon as the loading cover is securely fastened down, connect on the loading hose and get under way. Extra precaution should be taken after the car is full (shell full) and the loading man is getting the samples, etc. There is more danger of fire at this time than any other.

Single board walkways from loading racks to tank car should never be used. These walkways should not be less than two feet wide and it is better if they are three feet wide. These boards should be cleated together at each end and on the under side. The cleat on the platform should catch behind another cleat on the platform to prevent the walk board from slipping.

Car loaders should know how to give artificial respiration to a fellow employe who may have been overcome by gasoline fumes.

SEVERAL OKLAHOMA PRODUCTS ADVANCE

(Continued from Page 28)

Motor gasoline over a greater part of the time. The sellers' reply to this contention is that natural gasoline when properly blended gives a premium product and should bear that price relationship to domestic grades of refinery gasoline.

A strong spot market over the next few weeks will aid the natural gasoline manufacturers in their contract making and to that extent at least will largely determine the price situation for the coming year. The sellers are expecting a continued heavy demand from the Gulf Coast refiners operating with the low gravity crude oils and the buying of the past week by East Coast refiners has led to the hope that more aid can be expected from that area in the future. The demand for stabilized natural gasoline in export channels is also expected to increase next year.

Fuels Higher

Although some of the buyers report that the lower gravity grades of fuel oil are more easily obtainable, a careful check the first of this week showed that the lower priced material of last week is no longer available. The same situation applies to distillates and gas oil. The two or three refiners who last week were selling fuel oil under 60 cents are sold up for immediate shipment and 60 cents appeared to be the low of the market the first of the week. Sellers stated they were able to secure limited quantities of fuel oil in other areas at prices which would be less than 60 cents when quoted on a Group 3 basis. This material either has a high cold test or was high in sulphur content.

Gas oil moved upward to a low of 3 cents, that price being received by Oklahoma refiners for U.G.I. material and industrial grades. Previously some material had been available at 2¾ cents and 2⅞ cents. The straw color gas oils of 32-36 gravity are in strong demand. If suitable for cracking, sales as high as 3⅜ cents were made and furnace oil buyers bid as high as 3¼ cents.

A low of 4 cents was established for the better grades of furnace oil distillates. Off specification material having an exceptionally high cold test or high flash was available under this price, but the bulk of the spot sales over the past week were made on a basis of 4 to 4¼ cents. Sales of prime white distillate were made as high as 4½ cents.

Some of the trade feel that distillates will be more readily available at lower prices in the near future. It is claimed that the first wave of buying which always accompanies the start of the furnace oil season will soon be over and refiners will have more material to offer.

It is pointed out in this connection that there is only a one-half cent differential between the distillate and water white kerosene prices in many sales. The usual difference is from 1½ to 3 cents a gallon.

Realizing the abnormal price situation between the distillates and kerosenes refiners are taking the view that the slump in the kerosene market has ended and the market will shortly move upward so that the usual differentials are obtained without any reduction in the distillate prices.

Gasoline and Naphthas

Only three companies reported sales of U. S. Motor gasoline on Monday at 7¾ cents. Several of the other companies are quoting 7¾ cents but failed to make any spot sales. The explanation lies in the fact that the same grade material is available from other refiners in Oklahoma and other areas at a price as low as 6¾ cents for jobber sales. Resale material has sold as low as 6½ cents.

Many of the trade are expecting an adjustment to be made within a few days in the U. S. Motor gasoline price. There is considerable high gravity gasoline available in Oklahoma but as previously stated the export business placed last week went to the North Texas refiners who have a freight rate advantage in shipments to the coast. The 375 endpoint sales are reported to have been made on a basis of 7.55 cents North Texas. One sale of 400 endpoint was reported at 7 cents.

The situation in regard to the gasoline market in Oklahoma and other Mid-Continent areas has not changed. It is agreed that some curtailment in supply is necessary or wider outlets secured if the price is to be maintained over the winter months. It has been predicted that a substantial curtailment in refinery crude runs would materialize due to the low gasoline prices but there has been no evidence of this development as yet. The naphtha market is unchanged.

Kerosene and Distillate

Although sales of 41-43 water white kerosene were made in Oklahoma last week under 4¾ cents the market the first of the week appeared to be steady at 4¾ to 5¼ cents. The range on the 42-44 water white grade was 5¼ to 5¾ cents. The demand has not improved but some of the refiners have reduced their offerings through storage or by throwing more of their kerosene cut into furnace oils.

The desirable grades of distillates are bringing a minimum of 4 cents in Oklahoma.

Oklahoma and other Mid-Continent and Middle West refiners of lubricating oils from Mid-Continent paraffin or mixed base crude oils are highly optimistic regarding the present market and the future outlook for their products. Ordinarily this is the season of the year in which there is a slump in paraffin base motor oils due to the shift to the lower cold test products from the coastal plants. This year, however, it is claimed that the demand is holding up much better than expected a development which is said to be due to the fact that refiners have been able to manufacture a paraffin base oil which gives satisfaction in the winter months

Practically all the Mid-Continent and Middle West refiners are lowering the cold test of their oils and are claiming other perfections which have enlarged their year-round market. Bright stock prices are firm and price concession in the higher viscosities neutral oils are rare.

The price on 124-126 wax has been moved up to a low of 3 cents. No sales were made under that figure during the last week either for spot or future delivery. Some of the refiners have sold all they expect to sell before the end of the year. Inquiries are increasing in number both for large and small orders.

VAN ZANDT COUNTY WILDCAT MAKES 1,800 BBLS. IN 24 HOURS

By Neil Williams

CORSICANA, Tex., Oct. 14. — Pure Oil Co.'s No. 1 Jarman, Van Zandt County, located 150 feet from south and east lines, Section 2, Nacogdoches County school land, 12 miles south of Grand Saline, located on a 17,000-acre block belonging to the Pure Oil Co., encountered saturated Woodbine sand at 2,656-62 feet and from 2,682-2,710 feet, it flowed 146 bbls. during the first hour ending at 7:40 a.m., October 14 and gauged 132 bbls. the second hour. Nine and one-quarter-inch casing is set at 2,587 feet and the company may run 3 or 4-inch tubing. The well had been making heads at 20-minute intervals. Last reports were it made 1,800 bbls. in 24 hours.

Close in acreage is held by The Texas Company, Shell Petroleum Corp. and Sun Oil Co. Shell has 25 acres offset to the east and is making a location. This is the first deep test drilled in this area and was located following the drilling of a series of shallow geological tests. The test encountered a series of favorable oil showing sands, the first being between 458 and 1,268 feet, and the second at 2,603-25 feet. The first was passed but a drill stem test was made of the second which showed two joints of mud with a showing of oil.

The only completions in the division during the week were a number of abandonments. In Navarro County, General Oil Co. has quit temporarily its No. 1 Moore which was in a fresh water sand at 2,850 feet. Killam & Phillips have abandoned No. 3 Bryant in the Naber Survey, McLennan County, in red shale at 1,650 feet.

In the McCalm district of Hill County four shallow chalk tests were abandoned after failing to get the production found several months ago by Harper & Latson's No. 1 Jones, which made a 25-bbl. pumper. Since then only one other well, Harper & Starkey's No. 1 Jones has found oil but this is shut down after pumping 5 bbls. The four abandoned were Samson and associates' No. 1 Holderman, Thomas & Bland's No. 1 Clark, J. H. Burnham's No. 1 Halderman, and Fentress and associates, No. 1 Reynolds, all of which quit around 800 feet. At present no other tests are drilling in this area.

At Boggy Creek, Anderson County, Humble Oil & Refining Co.'s No. 2 Beard, which blew out several weeks ago at 3,692 feet, has cemented casing to test the oil sand. This is a semiwildcat on the south side of the dome. Humble's No. 4 Lizzie Smith is drilling chalk at 3,500 feet; No. 2 Purvy is fishing at 3,432 feet; No. 3-B Elliott & Clark (Cherokee County) is drilling surface formations, and No. 3-A Jones and No. 2 Gauger are rigged up. Magnolia Petroleum Co.'s No. 1 Williams on the north side of the dome is fishing drill pipe. Bottom of the hole is in chalk at 3,888 feet.

Humble Oil & Refining Co. has spudded in on another test on the Posey Saline, south of Boggy Creek in Anderson County. This is No. 1 E. B. Birdwell. Pure Oil Co.'s No. 1 Jackson, Bethel Dome, Anderson County, is drilling lime at 5,732 feet.

In Falls County, Gruver and associates' No. 1 Westbrook tested salt water in a drill stem test of the Edwards lime at 1,270 feet. Killam & Phillips' No. 4 Jones is drilling chalk at 980 feet. Southern Petroleum Co.'s No. 1 Barclay has been shut down in lime at 1,618 feet.

Haley & Young's No. 1 Knight, Freestone County, a wildcat between Luna and Dew, has cemented 6⅝-inch casing at 4,806 feet.

C. F. Lytle's No. 2 Thompson, Mexia Trinity test, Limestone County, is reaming to set a string of casing. Bottom of the hole is 4,042 feet. Haskell and associates' No. 1 Strange at Currie is drilling shale at 2,002 feet. Jensen & Baggett's No. 1 Powell, west of the Mexia field, has been shut down in sandy shale showing oil at 3,226 feet after twisting off and losing the fishing tools in the hole.

Magnolia Petroleum Co.'s No. 1 Duran, Lollar Survey, Rusk County, is drilling lime at 3,437 feet.

Daily average production of the division for the week ending October 12 was:

Production by Pools

Boggy Creek	2,960
Cedar Creek	85
Currie	683
Hill County	26
Mexia	5,165
Minerva	600
Nigger Creek	275
Powell	7,050
Richland	365
Thrall	35
Wortham	1,050
Total	18,294
Week ending October 5	17,463
Increase	831

SOUR LAKE CAVE-IN AROUSES CURIOSITY

(Continued from Page 29)

has been due to the taking of vast quantities of sulphur from the cap rock. At Gulf the sinking has been so great that the surface, which formerly rose dome shaped conspicuously above the surrounding country now is a sunken basin.

The exact area affected at Sour Lake at this writing has not been determined due to the increasing widening of the crater and sink but at one place 20 joints of pipe line lay in the crater which would indicate at that time and at that place the width was at least 600 feet. Geologists late in the week measured the distance from the level of the surface to the top of the lake formed at the bottom of the crater and found it to be a fall of a minimum of 75 feet. The depth of the lake has not been determined. Around the hole on the surface are a series of large cracks extending some distance and gradually the ground has been tilting and settling into the crater.

The crater Saturday had reached almost the edge of a group of pumping wells on the west side of the brink. Cracks have appeared in the pavement around the office of The Texas Company a half mile distant but it is not expected this will prove serious. Cracks also are in the floor of an abandoned machine shop and the Gilbert Oil Co. has a pump house several hundred feet from the hole.

Production of the field as a whole has not been affected seriously. Although several wells have gone to salt water, others on the opposite side of the crater have increased their output to make up for the loss. The Texas Company has abandoned its No. 150 fee and No. 1 Oliver, which were small pumpers, but this is the only loss sustained by that company. However, a well completed only this month by H. M. Terry flowing 200 bbls. daily from a new level at slightly less than 2,000 feet went to salt water but at the same time another well which had been pumping about 10 bbls. daily boosted its output to 150 bbls. daily. The fact that the cave-in is in the old part of the field where all the wells are small will prevent any important change in the field's production figures. The main output of Sour Lake now is from sands found in other parts of the dome and around the sides.

Was Very Sudden

The main cave-in was very sudden, most of it taking place within a period of three hours Wednesday morning. Several field men had walked across the place about 6:30 o'clock on that morning and had noticed nothing wrong. One man mentioned he thought the pipe lines were a little higher above the ground than usual but he gave the matter no thought. They returned about 9:30 o'clock and found the crater, indicating that the ground must have given away suddenly. The surface where the crater now is until Wednesday was level with the surrounding field.

The "Shoestring" area of Sour Lake

is quite famous in coastal oil history. It got its name from the fact that about the years 1902 to 1905 the area was subdivided into numerous long and very narrow tracts and sold to numerous owners. The principal tracts are known as the Wert Davis, the Wyatt, the Burgess and the Hart tracts, all of which are in the Jackson League.

PHILADELPHIA AWARDS MEDALS TO C. P. DUBBS

The city of Philadelphia has awarded C. P. Dubbs the John Scott medal "for the discovery and development of a process for economically producing gasoline on a large scale."

Mr. Dubbs has been associated with the Universal Oil Products Co. in the development of the Dubbs cracking proc-

ess now used at a large number of refineries in the United States and foreign countries. The result secured in the commercial operation of the process was responsible for the honor conferred on Mr. Dubbs.

The John Scott medal is awarded to individuals in recognition of accomplishments worthy of special note. During the past few years the medal has been awarded to Madam Curie for her discovery of radium, to Orville Wright for his development of flying machines and to Lee DeForest for is invention of the audion used in radio.

VACUUM BUYS PHILLIPS CRUDE

Indicative of the continued demand for Mid-Continent paraffin base crude oils the Vacuum Oil Co. last week purchased approximately 1,300,000 bbls. of Burbank crude oil from the Phillips Petroleum Co. The crude oil has been in storage for some time and the purchase includes the steel tanks. Although the purchase price was not announced it is known that the crude oil brought a substantial premium over the posted gravity price.

The crude is refined at the Paulsboro, N. J., and Olean, N. Y., refineries of the Vacuum company. The Burbank crude is highly desirable for the manufacture of lubricating oils and the Vacuum company specializes in these products.

The Vacuum company over the past three years has been a steady buyer of the Burbank crude oil, having made other large purchases from the Phillips company. The latter company now has practically no storage in the field, although it is still operating a large number of producing wells.

GULF'S NEW TERMINAL

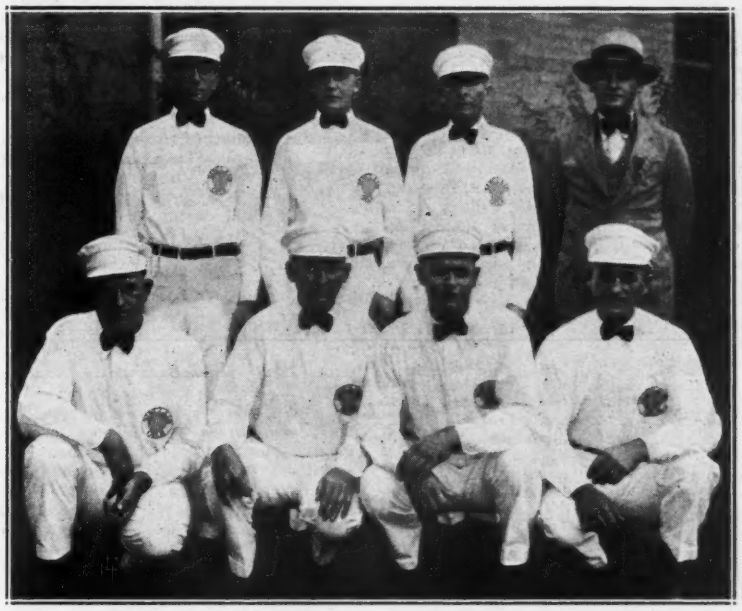
The Gulf Refining Co. has completed plans for a large water terminal at Baltimore, Md. Approximately 500,000-bbl. storage will be erected at the site with two large warehouse buildings. The cokage will be sufficient to accommodate two of the companies' larger tankers.

The company expects to erect a large number of filling stations and bulk stations at points which can be served by the new terminal.

SINCLAIR SAFETY FIRST TEAM IN HEALDTON FIELD WINS TROPHY

The safety first team of the Sinclair Oil & Gas Co. in the Healdton, Okla., district won the big silver loving cup, emblematic of first prize in the annual safety first contest at the International Petroleum Exposition held under the auspices of the safety division of the Mid-Continent Oil & Gas Association.

The members of the winning team, reading from left to right in the accompanying picture are: Lower row—R. A. Gardner No. 1, J. A. Robinson, team judge; J. L. Ashford, captain; L. C. Jones, No. 2; upper row—J. R. Breshears, No. 3; J. A. Stribling, No. 4; J. A. Nicholson, patient in the contest; F. F. Thomasson, company trainer.



—Photo by Stithem

Other teams in the first aid contests and their headquarters were Blackwell Oil & Gas Co., Seminole; Oklahoma Natural Gas Co., Tulsa; Independent Oil & Gas Co., Okmulgee; Empire Rig & Reel Co., Ponca City; Skelly Oil Co., Eldorado, Kans.; Gypsy Oil Co., Seminole; Empire Oil & Refining Co., Gainesville, Tex.; Pure Oil Co., Muskogee; Independent Oil & Gas Co., Kansas City; Indian Territory Illuminating Oil Co., Seminole; Empire Oil & Refining Co., Okmulgee; Louisiana Oil & Refining Co., Shreveport; Tidal Refining Co., Drumright; Phillips Petroleum Co., Borger, Tex.; Transcontinental Oil Co., Roynton, Okla.; and the Empire Oil & Refining Co., Cushing, Okla.

The Phillips Petroleum Co. team of Borger, Tex., won the resuscitation contest.

A dinner was given in the evening in honor of the safety teams at which time the presentations of the trophies was made.

Pennants were awarded the winners of the Greater Seminole safety contests which were held from June 1 to September 1. The Greater Seminole winners were: Class A and B, production, Carter Oil Co. and Turman Oil Co.; Class A and B, gasoline, Indian Territory Illuminating Oil Co. and Skelly Oil Co.; Class A and B, pipe lines, Gulf Pipe Line Co. and Oklahoma Natural Gas Corp.; transportation, Oklahoma Natural Gas Corp. and Carter Oil Co., tied; Class A and B, contractors, Carter Oil Co. and Schleuter Torpedo Co.

THEORY OF TENSION IN DRILL PIPE IN THE DRILLING OF STRAIGHT HOLE

By J. T. Hayward
Consulting Engineer, Tulsa.

The Oil and Gas Journal will be glad to print discussions of Mr. Hayward's suggestion for it seems that this phase of rotary drilling practice has been overlooked in the past by drillers.

The ratio of the diameter of a string of 6-inch drill pipe to its length in a 5,000-foot hole is as 1 to 10,000. A column of such a diameter to length ratio would tend to buckle under compression even of the lightest nature, and that a straight hole should ever be drilled with such a drill would, at first sight, appear to be surprising. It is suggested that it would in actual practice be very difficult and that the hole would be liable to go crooked whenever there was any compression in the bottom joints.

The cross sectional area of 6⅝-inch drill pipe, minus the water courses in the bit is roughly 27 square inches. Considering the case of an 11-inch bit, drill collar, etc., and a mud fluid pressure of 290 pounds per square inch at the bit acting on the above mentioned cross sectional area, there would be tension of 10,000 pounds in the last joint of the drill pipe, when the bit was just off bottom. A pressure of 10,000 pounds could therefore be put upon the bit without putting the drill pipe in compression.

A great deal of the published data contain no mention of the differential fluid pressure at the bottom of the drill stem, or even of the pressure at the pump, and it is therefore impossible to make any extensive correlation between the pressure on the bit, the differential fluid pressure, and the crookedness of the hole. The present is a plea for the inclusion of such data in crooked hole investigations. The differential fluid pressure at the bit may be arrived at approximately in the following manner: The hole is filled up and the bit, drill collar, etc. and a stand or two of pipe run into it. The slush pump is then started and the slush pressures, corresponding to the various pump rates, noted. This gives the pressures required to force the liquid at the various rates through the water courses in the bit. When the bit is on bottom, the differential hydraulic pressure across it can be arrived at approximately from the speed of the pump, and will be the pressure that was found with the same pump speed and the bit near the surface.

If the theory outlined above is correctly founded, the following changes in drilling practice would appear to be indicated. The stream lining of the internal passages through the tool joints, etc., so as to lose as little of the pump pressure as possible between the surface and the bit, and a corresponding reduction in the diameter of the water courses in the bit. The smallness of the internal diameter of the drill collar as compared with the drill stem causes some of the hydraulic pressure to be applied on a cross section some distance above the bit. To avoid this, a section should be recessed out to the largest possible diameter either in the bit itself or in the lower end of the drill collar in order to apply the pressure at the lowest possible point.

L. L. VanZandt Wins Golf Championship in Oil Men's Tournament

Logan L. Van Zandt, Tulsa oil operator, qualified as champion oil man golfer by defeating Walter Critchlow of Ardmore, champion for three years, 5 and 4 in the finals of the International Petroleum Exposition golf tournament held on the Country Club links last week.

The first prize was a four-piece water set in silver donated by A. Y. Boswell of Tulsa. The runner-up received a silver dish donated by the Gaso Pump and Burner Co. of Tulsa.

Van Zandt's score for 18 holes was 71, and for 32 holes 128, while Critchlow's score for 18 holes was 74 and for 32 holes 133.

About 200 golfers took part in the tournament and the complete list of prize winners is as follows:

Medalist—George Johnston, Tulsa with 72; prize—mahogany humidor given by Dr. S. G. Kennedy.

High medalist—R. A. Waltz, Amarillo, Tex., 124; prize—silver trophy cup given by "Liars' Club."

Producers' flight—(championship) L. L. Van Zandt, Tulsa, defeated Walter Critchlow, Ardmore, 5 and 4.

Engineers' flight—(A)—V. T. Broaddus, Bartlesville, defeated Fred Daniels, Tulsa, 2 up; prizes—winner a silver liquor set given by C. F. Camp Co., and runner-up a silver vegetable dish given by Wheatley Brothers.

Pipe liners' flight—(B)—Font Allen, Tulsa, defeated Paul Kincade, Bartlesville, 1 up, 19 holes; prizes—winner a tankard given by Republic Supply Co., and runner-up a silver water pitcher given by McMan Oil Co.

Truck drivers' flight—(C)—Jim Gallagher, Tulsa, defeated John I. Cary, Okmulgee, 4 and 3; prizes—winner a silver tray given by Kirk-Morrow Iron Co., and runner-up a silver water pitcher given by Oil Well Supply Co.

Gaugers' flight—(D)—Tom Moore, Tulsa, defeated B. H. Wilson, Fort Worth, Tex., 3 and 2; prizes—winner a golf bag given by Parkersburg Rig & Reel Co., and runner-up a motor car tire given by McAndrews Rubber Co.

Tool dressers' flight—(E)—O. N. MacCurdy, Tulsa, defeated Fred Brinkman, Tulsa, 6 and 5; prizes—winner a pair of field glasses given by National Supply Co., and runner-up a silver cream and sugar set given by Tulsa Country Club.

Drillers' flight—(F)—Allen Whiteside, Tulsa, defeated L. S. Collins, Tulsa, 4 and 2; prizes—winner a three-piece water set, silver, given by Hinderliter Tool Co., and runner-up a wrist watch given by First National Bank.

Teamsters' flight—(G)—J. B. McClintock, Tulsa, defeated W. A. Cook, 3 and 2; prizes—winner a coffee urn given by Jarecki Manufacturing Co., and runner-up an electric clock given by the Tulsa World.

Pumpers' flight—(H)—W. F. Keally, Tulsa, defeated J. E. St. Clair, Sand Springs, 3 and 2; prizes—winner a silver shaker set given by Frick-Reid Supply

Co., and runner-up a silver ice bowl given by the Exchange National Bank.

Geologists' flight—(I)—J. F. Blake, Tulsa, defeated C. F. Green, Wichita Falls, Tex., 3 and 2; prizes—winner a silver water pitcher given by Mid-Continent Map Co., and runner-up a silver gravy bowl given by the Tulsa Tribune.

Roustabouts' flight—(J)—M. N. Brady, Akron, Ohio, defeated I. G. Rosser, Tulsa, 2 up; prizes—winner a four-piece silver coffee set given by O. T. Dawson, and runner-up a wrist watch given by The Oil and Gas Journal.

Refiners flight—(K)—Pat McAndrews, Tulsa, defeated O. H. Parkening, Tulsa, 1 up; prizes—winner a silver chop dish given by Continental Supply Co., and runner-up a set of book ends given by Bovaird Supply Co.

Clerks' flight—(L)—George A. Shaner, Tulsa, defeated Donald Weir, Tulsa, 2 up; prizes—winner a silver tea tray given by the Missouri State Life Insurance Co., and runner-up a golf bag given by the Tulsa Country Club.

Late Fields

(Continued from Page 40)

field. The gauge by companies and leases follows:

Company, Lease—	Bbls.
Coline, Olds	5,420
Bromwell, Trosper	8,521
Hall & Briscoe, Childs	7,457
I. T. I. O., A. Bodine	5,762
I. T. I. O., Button	5,278
I. T. I. O., Fuzzell	15,686
I. T. I. O., Henning	667
I. T. I. O., fee	1,350
Mid-Kansas, Fortson	3,029
Mid-Kansas, Fortson	2,694
Prairie, Hiddleston	5,510
Shell, Petty	5,365
Sinclair, Kinter	175
W. Franklin, Lowery	5,718
Total	72,632

Several tests in the south field are bailing the hole and it is expected they will be producing in the next day or two. The Mid-Kansas Oil & Gas Co.'s No. 3 Fortson, NW cor. NE, Section 24-11-3w, is bailing. Coline Oil Co.'s No. 3 Olds, NW cor., Section 24-11-3w, cored a sand at 6,418-28 feet, with a show of oil. The crew is landing 6-inch casing at 6,406 feet before drilling deeper.

Tom Slick Oil Co.'s No. 2 Glidden, SE cor. SW SE, Section 13-11-3w, Oklahoma County, blew in at 10:45 a. m., October 15, making 132 bbls. an hour the first hour from a total depth of 6,558 feet. The well will be shut in for the 30-day period after producing 24 hours.

Shell Petroleum Corp.'s No. 1 Petty, NW cor. NE, Section 30-11-2w, Oklahoma County, made 5,365 bbls. in 14 hours, from the pay horizon at 6,084-6,500 feet.

The production in the East Earlsboro Pool for the last 24 hours ending at 7 a. m., October 15, was as follows:

Company, farm—	Bbls.
Amerada, Sullivan	1,555
Barnsdall, Noble	920
Burke-Greis, Fixico	1,175
Carter, Wrightsman	2,460
Gypsy, Noble	1,902
Gypsy, Payne	3,110
Magnolia, A. Anderson	4,881
Magnolia, D. W. Anderson	2,918
Minnehoma, Noe	1,070
Prairie, Calkins	3,135
Prairie, Raitman	1,620
Prairie, Wisener	285
Total	25,031

The gauges by companies in the East Little River Pool for October 15 at 7 a. m. are as follows:

Company, lease—	Bbls.
Continental, Harrison	1,415
Gypsy, Payne	4,627
Gypsy, Walker	1,037
Mid-Continent, Smith	8,125
Prairie, Lustey	30
Prairie, Smith	1,810
Prairie, Thomas	1,152
Prairie, Carr	....
Sinclair, Phillips	7,045
Texas, Chilcoat	850
Total	26,091

SOUTHWEST TEXAS

SAN ANGELO, Tex., Oct. 15.—Magnolia Petroleum Co.'s No. 1 Appling in James Hodges Survey, Guadalupe County, 4 miles northeast of The Texas Company's discovery Darst Creek well and 1½ miles southwest of Simms-Penn discovery well on Manford lease, is setting casing at 2,535 feet after taking core in marl showing oil saturation. At this time test looks much like Simms-Penn's No. 1 Manford, which has been producing at around 1,000 bbls. oil per day.

F. P. Zoch's No. 1 Kauffmann in western Goliad County has set casing at 2,913 feet with total depth 2,938 feet after drill stem test showed considerable gas. Depth is approximately the same as in Mission Drilling Co.'s discovery gas well at Pettus in Bee County, 7 miles a little south of west from Zoch's test.

MICHIGAN

MUSKEGON, Mich., Oct. 15.—Three Michigan oil fields produced more than 125,000 bbls. of oil for the week ending Monday, October 14, at 7 a.m. for a new high daily average of 17,860 bbls., according to figures computed here for the American Petroleum Institute by the Michigan Oil & Gas Association. Production of the Muskegon Field led the State and showed an increase of nearly 300 bbls. daily. The daily average was 10,300 bbls. of Dundee crude oil and 680 bbls. of Upper and Lower Traverse formation crude, a total of but 20 bbls. less than 11,000 bbls. a day. Mount Pleasant Field production dropped 180 bbls. a day from 6,840 to 6,660 bbls. Of this, 6,600 was Dundee oil and 60 bbls. was Traverse. The old Saginaw Field produced 220 bbls. a day of Traverse oil showing a 20-bbl. decrease in daily production for the week. Michigan production for the past five weeks has varied from 120,000 to 125,000 bbls., holding very steady in all three fields with but slight variations due to new completions.

WEST TEXAS

FORT WORTH, Tex., Oct. 15.—New discovery in Lea County, New Mexico, the Texas Pacific Coal & Oil Co.'s No. 1 State in the NW cor. SW Section 21-23s-36e, located 12 miles north and west of Jal, cored porous limestone from 3,705-12 feet and is flowing by heads every one and a half hours. Nearest production is in Continental Oil Co.'s No. 1 Lockhart, 11 miles north.

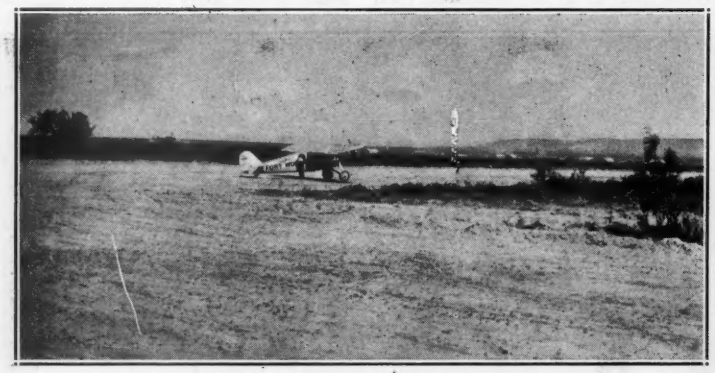
Alpine Oil Co.'s No. 1 Booger, located in Section 11, Block 5, H.&T.C. Survey, Ward County, is now cleaning out 5 feet off bottom swabbing 35 bbls. daily.

NEW OIL POOL HAS AIR FIELD BEFORE IT GETS A POST OFFICE

By L. E. Bredberg

FORT WORTH, Tex., Oct. 14.—The two latest oil pools discovered in the Permian Basin, the Taylor-Link and Rowan & Tong or Girvin Pool in Pecos County are now served with a regulation air field even before the United States put in a post office, or a boom town could be built nearby. This further proves that operators and oil company men are not losing any time between their offices and the fields where they are active, and that they are using planes for rapid transportation. The Taylor-Link Oil Co. of San Angelo and the Landreth Production Co., Fort Worth, both companies having large holdings in these two new fields, were instrumental in putting in this new landing field. It is located between the two pools, has two 2,500-foot aprons forming a cross so that landings and "take-offs" can be made in any of four directions, and the aprons are 200 feet wide, giving plenty of room for the largest of ships.

The field is rather unique in that it is at least 20 miles by road from any town, sits in the middle of mesquite covered lands and was built by two oil companies. The mesquite was cleared and aprons smoothed off by teams and men working for the oil companies, and few of the smaller towns can boast of as smooth a landing field for visiting ships. Reg Robbins, endurance flyer of the monoplane "Fort Worth," who flies many trips to the various fields with oil operators and oil company men, laid out this new field, and since it has been cleared has been busy transporting men from Fort Worth to the new areas. W. A. Moncrief, independent operator of this city, and E. A. Landreth, of the Landreth Production Co. often make hurried trips to the fields with Robbins, and as the months go by transportation of oil men by air will increase practically as rapidly as passenger and mail service has increased in the past year on passenger and air mail lines, and the increase in individual and company owned airplanes will probably be greater as time passes.



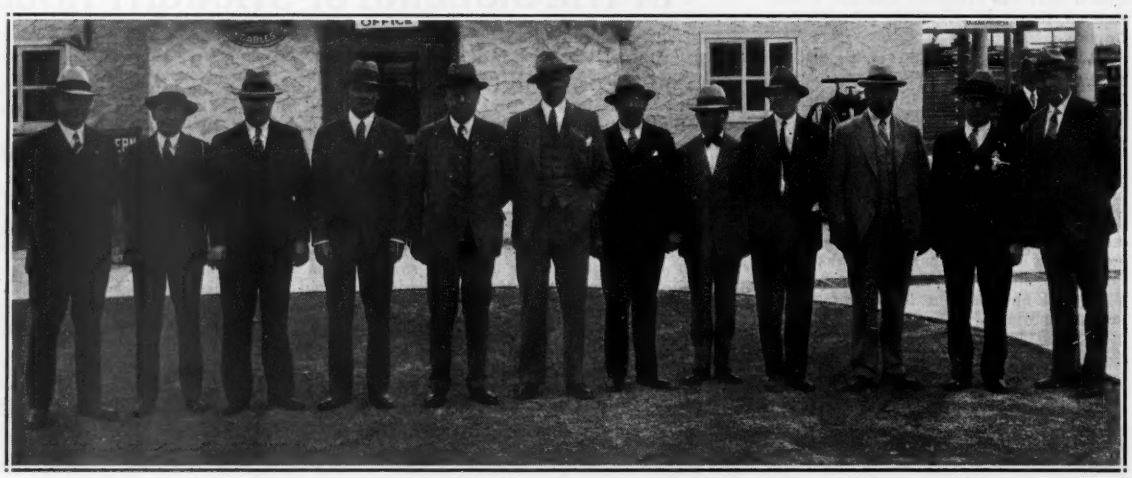
Picture of the Ryan monoplane "Fort Worth" setting in the mesquite surrounding landing field between the Rowan & Tong and Taylor-Link Pools, Pecos County, Texas. The new town of Bakersfield, now building, can be seen in the background.

GULF COAST MARKET LUB PRICES SHADED

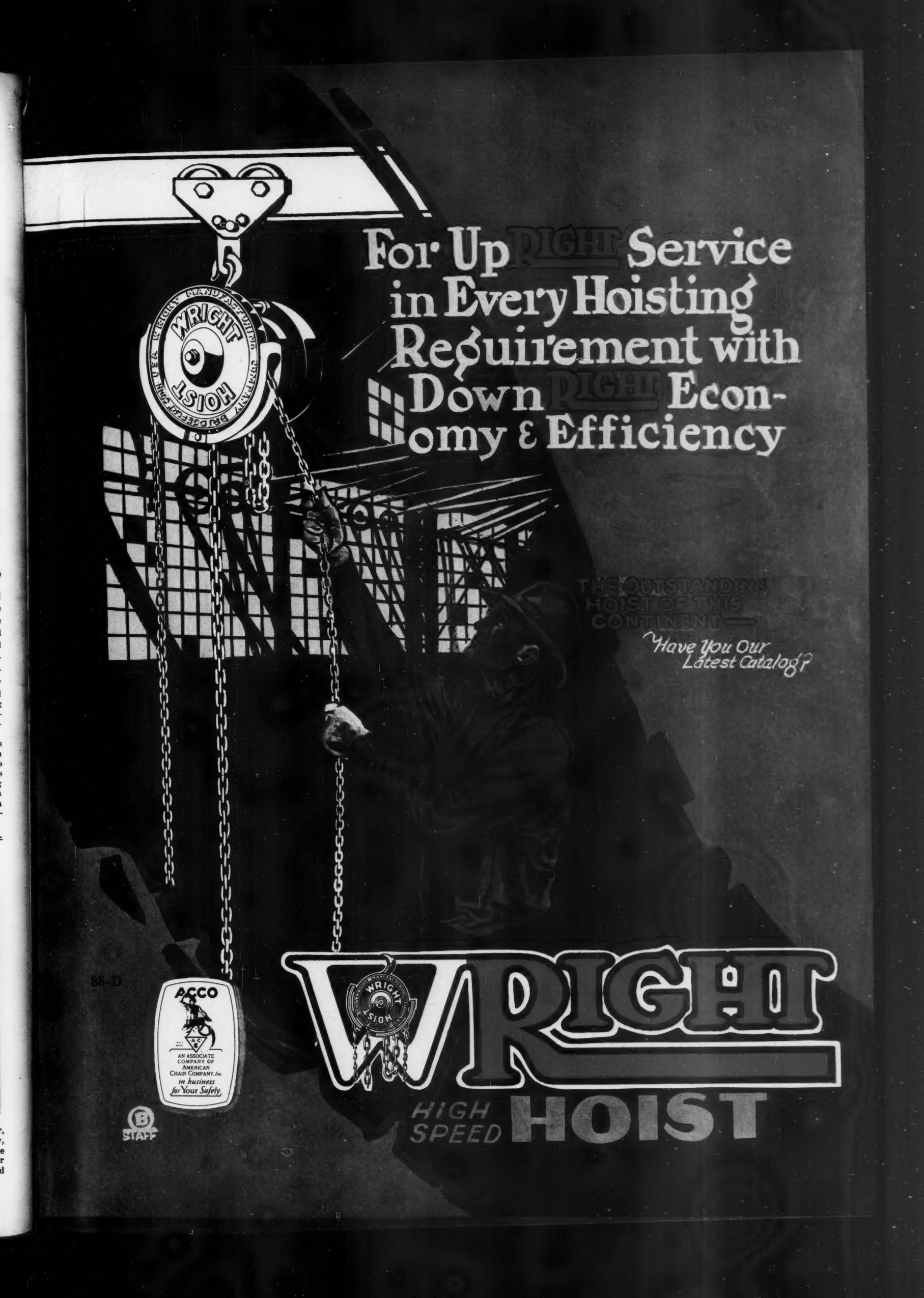
HOUSTON, Tex., Oct. 15.—Continued shading of prices was in evidence in the Gulf Coast lubricating oil market as the week opened and although refiners still had no official reduction in their posted quotations there was considerable competition from a few sources to get business. The majority of sellers Tuesday were trying to hold a steady market and were making sales at their prevailing quotations but there was a generally uncertain tone. Fuel oils and gas oils continued unchanged.

Although comparatively little business is being done sellers are holding firm on their quotations. Although coastal zero cold test and low sulphur content gas oils in previous years have been in strong demand at this season to meet northern requirements for burner oils, competition of other areas have hurt the coastal demand noticeably.

TAKING ADVANTAGE OF PREVIEW OF INTERNATIONAL PETROLEUM EXPOSITION



Among those who took advantage of the invitation extended directors of the American Petroleum Institute to view the International Petroleum Exposition the day before the show was officially opened, were Roy B. Jones of the Panhandle Refining Co.; L. L. Marcell, White Eagle Oil & Refining Co.; Lacey Walker, secretary of the Institute; Mr. Fuller of the Sinclair companies; George R. Nutty, president of the Gulf Oil Corp.; Fred G. Clark and Frank Klug of the Fred Clark Co.; Frank Hinderliter, Hinderliter Tool Co.; William B. Way, general manager of the exposition; George R. Dye, Wilcox Oil & Gas Co.; J. Burr Gibbons, Oil Well Improvements Co.; and R. C. Beckstrom, University of Tulsa.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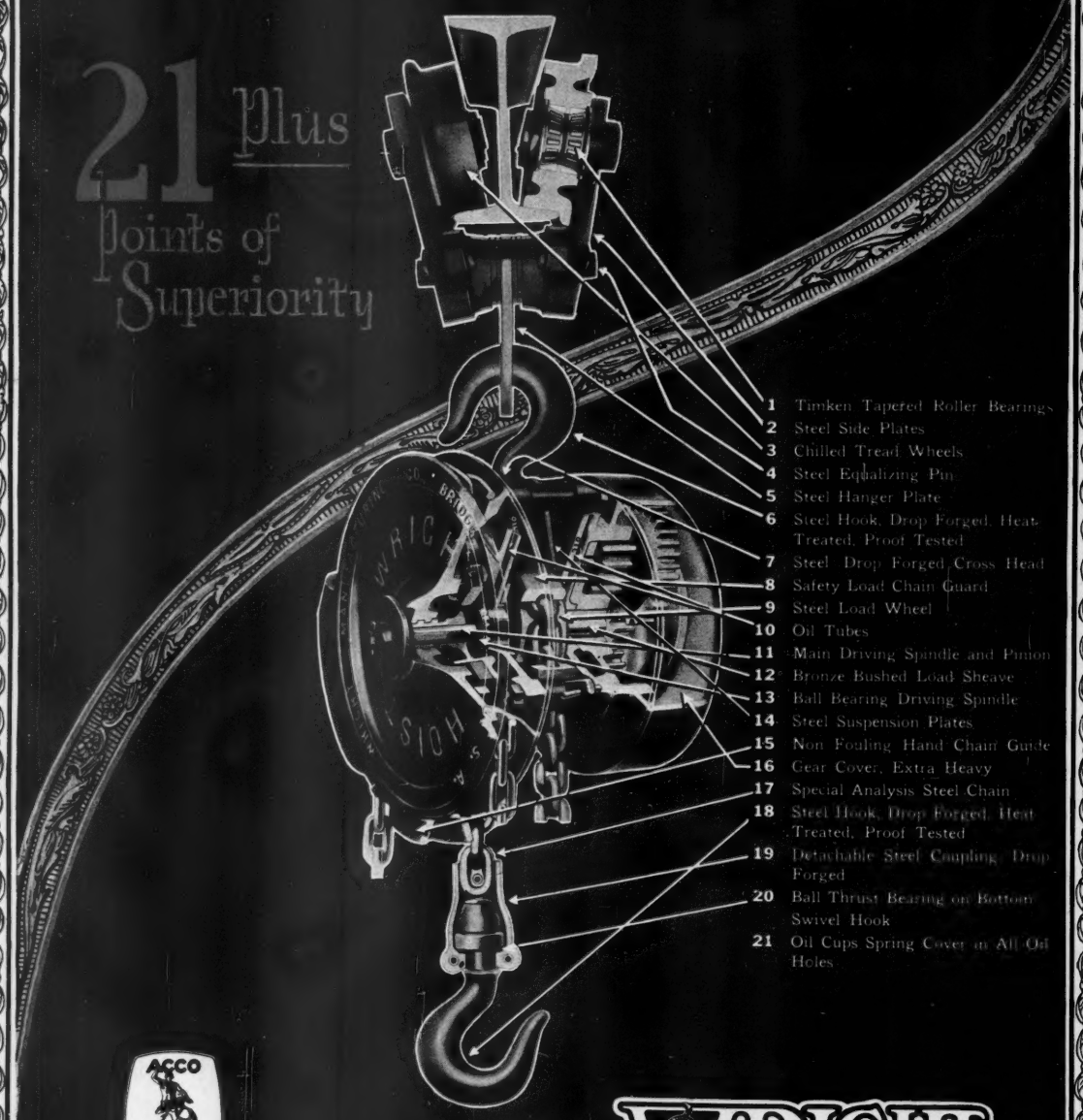

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Of Interest to Sales Departments

DEMAND CONTINUES TO SHOW LARGE INCREASE

The July demand for gasoline was 12.8 per cent greater than the same month in 1928, according to gasoline tax reports from 38 states compiled by the American Petroleum Institute. The gasoline on which a tax was paid totaled 909,003,000 gallons in July compared to 805,905,000 gallons in July, 1928.

The July rate of increase was approximately the same as was maintained in previous months of 1929. In the 38 states for which total figures are available the gasoline consumption for the first seven months of 1929 totaled 4,994,342,000 gallons or 545,737,000 gallons (12.8) per cent greater than the same period in 1928.

New York State easily leads all the reporting states with sales of 140,924,000 gallons in July. The following table summarizes the gasoline tax report for July:

GASOLINE CONSUMPTION BY STATES, JULY, 1929

	July, 1929 (gallons)	July, 1928 (gallons)
Alabama	16,702,000	15,209,000
Arizona	5,285,000	4,293,000
Colorado	15,850,000	15,017,000
Delaware	3,602,000	3,117,000
District of Columbia	6,596,000	5,820,000
Florida	15,468,000	18,540,000
Georgia	20,280,000	19,696,000
Idaho	6,046,000	5,435,000
Indiana	41,606,000	38,870,000
Iowa	32,804,000	30,167,000
Kansas	48,683,000	39,618,000
Kentucky	16,012,000	13,339,000
Louisiana	15,823,000	14,325,000
Michigan	81,012,000	71,087,000
Minnesota	38,572,000	34,732,000
Missouri	37,366,000	32,956,000
Nebraska	21,089,000	20,074,000
Nevada	1,931,000	1,542,000
New Hampshire	7,459,000	6,244,000
New Jersey	52,825,000	42,919,000
New Mexico	4,370,000	3,450,000
North Carolina	21,937,000	21,696,000
North Dakota	11,374,000	10,607,000
Ohio	90,968,000	83,521,000
Oklahoma	31,812,000	28,046,000
Oregon	17,628,000	15,700,000
Rhode Island	8,757,000	7,195,000
South Carolina	10,700,000	9,632,000
South Dakota	12,367,000	10,335,000
Tennessee	18,669,000	16,321,000
Texas	75,330,000	60,525,000
Utah	6,071,000	4,968,000
Vermont	5,616,000	4,753,000
Virginia	20,451,000	17,545,000
Washington	24,173,000	23,498,000
West Virginia	13,913,000	11,569,000
Wisconsin	45,555,000	40,131,000
Wyoming	4,301,000	3,863,000
Total	909,003,000	805,905,000
Daily average	29,323,000	25,997,000
Increase over previous year:		
Amount of increase	103,098,000	
Percentage increase in daily average	12.8%	
Massachusetts	53,003,000	
New York	140,924,000	

OIL BURNER SALESMEN WARNED BY ASSOCIATION

NEW YORK, Oct. 12.—Oil burner manufacturers are being cautioned by the American Oil Burner Association against permitting their salesmen to furnish leads, based on new installations, to marketers of fire extinguishers.

In a bulletin on this subject, the association says: "Our attention has been called to a letter written by a manufacturer of fire extinguishers which, we believe, is being sent to recent oil burner purchasers endeavoring to sell them fire extinguishing equipment. We believe that it is not unlikely that live fire extinguisher salesmen will attempt to make arrangements with oil burner salesmen for the purpose of securing leads after the oil burner contract has been signed. This practice should be frowned upon as being undesirable. Obviously, it is the wrong way of inspiring confidence in the oil burner prospect, and we suggest that our manufacturers communicate with their dealers cautioning them against such practice."

MERITS AND HAZARDS TO RETAIL COURTESY CARDS IN MARKETING

By O. W. Crick
Independent Oil & Gas Co.*

The real merit of retail courtesy cards is in their ability to assist in building new business. Some of you may say this is a credit men's meeting and business building is a sales department function; however, I feel sure all of you will agree with me that a retail credit man who does not so handle his position as to be about the two best salesmen on the sales manager's payroll is not a successful credit man.

How can they help build business? When a new station is to be opened in a locality not before served by your company, a careful check of the cross index in the back of any city directory will elicit the name of every resident nearby. All regular customers of your company can of course be eliminated by cross checking, leaving a list of prospects. This list can be cut further by eliminating those shown to be employed by other concerns in the marketing business, leaving a list that is practically 100 per cent sure to be purchasers of our commodity from some concern. A local Retail Merchants Association will on short notice furnish a credit experience on them and a careful check of such ratings will show a high percentage of good credit risks. Send courtesy cards to this list, either by personal delivery by one of your salesmen (the preferable way) or attached to a well written sales letter if personal delivery is not feasible. Our experience has been that within six months 25 per cent of these cards are in use. Assuming a retail association rating was necessary on every one of them at a cost of 65 cents (our cost in Tulsa) this list of customers was placed on the books at an actual cash outlay of $2.60 each, a rather reasonable cost for a customer who will purchase $75 to $200 of your merchandise yearly.

Obtaining Names

Another method doubtless used by every one of us, and I think one of the best uses of the retail courtesy card: Almost every day the news column of our daily papers report someone moving to our city to take a position of responsibility with some concern, or starting a new business in our city. These people are invariably good credit risks, as the man who doesn't pay his bills in this day isn't in demand for positions of responsibility. A letter of greeting from your sales manager with a courtesy card and list of your station locations attached will get his business if one of your stations is at all handy to his new residence. Suppose, as often happens, five or six of us have the same brilliant idea, some one of the five or six will get the business and the stranger within our gates will feel more at home, due to the fact that several of us were enough interested in him to note his arrival. He will make a better civic asset for the courtesy extended him.

Lists of newcomers are published at regular intervals by all chambers of commerce and these lists furnish very desirable material for the same sort of handling.

A request to the employes of your own company at regular intervals for names and addresses of friends, neighbors and relatives will elicit names of prospects that are invariably good credit risks, as your employes will be very careful to eliminate those who are not worthy of credit, and these prospects are already 50 per cent sold on your products due to the friend's or relative's connection with the company; this connection is easily tied up by mentioning the employe's name in the letter transmitting the courtesy card.

Commercial Accounts

Large oil producing companies, wholesale houses, laundries, bakeries, etc., that have numerous cars traveling over various routes and territories, with changes in drivers occurring daily. A supply of cards furnished to these concerns for such drivers is the simplest and most satisfactory way of handling the rapidly changing personnel. An ever-present hazard with this class of account is the discharge of the employe, who keeps the card and continues to use it.

A thorough understanding should be had on such accounts that you will hold the company responsible for any purchases on cards furnished them until such time as they notify you in writing to discontinue honoring a certain card, which will place on them the burden of taking up the card at the time the employe severs his connection with the company. Some of our larger users in Tulsa are now using their own courtesy cards, sending us a number for signature the first of each year, which they issue to those entitled to them. This is a desirable feature and I hope more of our larger users adopt it.

Where a company operates many retail outlets over a large territory, the card seems to be the only practical method of identification for customers, as it is carried along and in itself identifies the customer at any stop.

Quoting our own company, we have approximately 50,000 accounts in nine central states. It is manifestly an impossibility to maintain an authorization file in each of several hundred units for every one of these or even the 12,000 of them who carry courtesy cards, and assuming that such a file could be maintained, what assurance has the station man in Iowa that the stranger who drives in with an Oklahoma license on his car is Bill Jones of Tulsa or whoever he may represent himself to be; but if he flashes a courtesy card, the signature on it and the ticket can be compared and the customer identified without question. With this system, any one of the 12,000 can purchase supplies at any of our company-owned stations wherever located.

This proves to be a good business-getter, especially during the vacation season, as we had customers this last summer who traveled to the Minnesota lake region buying our goods all along the trail. If they had not had the cards, doubtless they would have stopped at the first station they saw; but with the card in their possession, several of them called us for information as to where our goods could be bought, and doubtless others had the same experience many times. Incidentally, in our company, all these cross-country charges are cleared back to the division which issued the card, and all charges appear on the customer's regular monthly statement. This is handled by a prefix letter on each card indicating the office which issued it. The address sometimes indicated this transfer in cases where station men neglected to note card number, but this seldom happened, as strange cards are usually carefully noted.

Customers tell us the card has assisted them in cashing checks, sending collect telegrams, securing registered mail, etc.

(Continued on Page 158)

*Paper presented at meeting, Petroleum Refiners Division, National Association of Credit Men.

RICHFIELD ESTABLISHES NEW EASTERN TERMINALS

NEW YORK, Oct. 12.—The Richfield Oil Corp. of New York, eastern marketing subsidiary of the Richfield Oil Co. of California, has established large bulk storage and distributing terminals at Baltimore, Providence, Schenectady, Bayonne, Newton Creek, and Brooklyn, according to C. M. Fuller. president of the California company.

"Our eastern subsidiary now has a storage capacity for more than 50,000,000 gallons of gasoline and other petroleum products at these plants," Mr. Fuller said. "In addition to these waterfront terminals we have a number of small bulk distributing depots located at inland points. At tidewater we have sufficient space to enlarge the terminals through the erection of additional steel storage tanks as our Eastern distribution increases. Present plans call for a normal, constructive expansion of operations in the East.

SHELL TO ENTER TEXAS GULF COAST MARKETING

The Shell Petroleum Corp. has completed plans for entering the retail marketing field in the Coastal area of Texas. The corporation which has its head quarters at St. Louis and affiliated Shell companies have been rapidly expanding their marketing facilities in all parts of the United States.

An announcement of the Shell Union Oil Co., the parent company, a few months ago, outlined plans to enter all states with their marketing facilities with the exception of Texas. The plans have now been enlarged to include a part of Texas centering in Houston. The corporation recently completed a 20,000-bbl. refinery on the Houston ship channel which will be the source of supply for the Texas distribution.

OPENS CHICAGO OFFICE

CHICAGO, Oct. 12.—R. L. Jordan is in charge of the offices opened October 1 by the Ethyl Gasoline Corp. in the Straus Building, this city. The new offices will have charge of the recently created Mid-West division of the Ethyl Gasoline Corp. Among the recent licensees of the Ethyl Gasoline Corp. are the National Refining Co., of Cleveland, and the Wadhams Oil Co., of Milwaukee. The former will use the trade name of "White Rose Ethyl Gasoline" and the latter "Wadhams Ethyl Gasoline."

STANDARDIZE ON OIL ROADS

After a survey of road conditions over the northwest territory the State Highway Commission of Montana has decided that the oiled road as being built in many states of this region is the most suitable for the State of Montana highways and will become the standard for highway construction. The governor of Wyoming has also come out as strongly in favor of the oiled road for Wyoming and refiners in both states expect a heavy demand for asphaltic road material next spring.

DATA ON GASOLINE TAX

NEW YORK, Oct. 12.—Additional copies of "What Editors Are Saying About Gasoline Taxes," a volume which contains the results of the latest survey made by the American Petroleum Institute of the gasoline tax situation, are available at Institute headquarters here. Copies already have been placed in the hands of the press, motor vehicle manufacturer, dealer and owner organizations and state gasoline tax officials.

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AT LAST—a practical method for removing paraffin deposits from oil wells, with a dependable service offered by experienced, responsible engineers.

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In some wells we have increased daily oil production as high as 800%. We have never failed in any well to get a substantial increase that more than justified our service fee.

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"Pencor" Unit No. 1, now operating in West Virginia. Other units will be operating at an early date.

We will gladly send you definite reports on wells we have cleaned by the "Pencor" method. Our service is available to all oil producers—individuals having only a few wells, also large producers who may wish to lease or purchase our equipment. Our method is far more economical than any other method—and cannot damage the well. Get all the facts —no obligation.

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Gentlemen:

Without obligation, please send full particulars of your "PENCOR" Well Cleaning Service, including definite reports on wells you have cleaned.

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ADDRESS: _____

CITY _____ STATE _____

(Please fill out following data:)

Number of wells _____ Kind of sand _____

Average depth _____ Average daily prod. per well _____

Casing size _____

CENTRAL WEST FIELDS

(Continued from Page 62)

credited with an initial of 120 bbls., topping the Niagara lime at 3,425 feet and found the oil pay from 3,450-58 feet. Ohio Fuel Gas Co.'s No. 1-4,736 on the Loren E. Stocker farm, Section 9, produced an initial of 20 bbls. at a total depth of 3,629 feet, the pay being found at 3,622 feet. Preston Oil Co. made locations for Nos. 2 and 3 on the J. O. Alloway farm, same section. In Cambridge Township, Gordon Oil Co.'s No. 3 Lena Black farm, Section 7, was dry at 3,392 feet. Cambridge Gas Co. is drilling No. 3 A. Kerr, Section 10, Westland Township.

Scioto Wildcat

An important wildcat venture is being made by Browning Brothers on the Wesley Caudill farm, Section 21, Porter Township, Scioto County, where it has been thought for years oil would be found in commercial quantities, and the outcome of the well will be watched with interest, being in the southern Ohio hills.

In Morgan County, Marion Township, the Ohio Fuel Gas Co.'s No. 1-4,768, on the J. J. Worthington farm, Section 8, is dry having a hole full of water at 1,225 feet. Williams Brothers' No. 4 Arthur T. Smith farm, Section 12, is a fair gas well in the Salt sand from 861-73 feet, total depth 876 feet. W. C. McBride, Inc., is drilling No. 5 Marion Mills, Section 25, and Bowman Oil & Gas Co. drilling No. 3 Charles Bowman, Section 7. In Penn Township, Sutton Brothers have a light gas well in No. 18 James and Edith Heskett, Section 2, in the Berea at a total depth of 1,745 feet.

Late advice is that Cochran and others' second test on the Roy C. Sansberry farm, Section 35, Salisbury Township, Meigs County, developed a duster. It was first drilled to the Cow Run sand at from 580 to 610 feet and, failing to find a pay, continued drilling and when at a depth of 1,500 feet, concluded it was not worthwhile to go any deeper and gave it up as a failure.

Fritz, Duhart and others made a big gas strike on the Charles Gillespie farm, Section 9, Brush Creek Township, Muskingum County, and one of the largest gas wells found in the Central Ohio area for a long period. This well will or should bring about an active drilling campaign in its vicinity.

The Preston Oil Co.'s test on the D. and L. Rine farm, Section 4, Pike Township, Coshocton County, is credited with a production around 20 bbls. initial at a depth from 2,964-3,009 feet.

The Wehrle Co.'s test on the Mel R. and Etta Emler farm, Section 17, Highland Township, Muskingum County, is still shut down at a total depth of 4,462 feet. In this well no showing was found in the Berea sand which was found from 1,235-37 feet, where oil or gas was expected to be found. It is yet undecided whether it will be drilled to a greater depth. In Rich Hill Township, same county, the Athey company's test on the William T. Osborn farm, Section 7, found pay at 4,345-48 feet, and drilled ahead, but at 4,361 feet, got a fishing job and still fishing.

Word comes from Tuscarawas County, that W. C. Adair and others' test on the Robert McKean, Section 21, Oxford Township, topped the Niagara lime at 3,370 feet and now drilling ahead at 3,407 feet. In the same county, in Washington Township, George Jewell and others topped the Niagara at 3,470 feet and going ahead at 3,570 feet.

INDIANA

A few completions are reported from various parts of Indiana. This is another oil-producing State that has only partly been tested, but is in line for a more thorough testing as numerous large operating concerns have been getting blocks of leases in many areas of the State. Among the new entrants to Indiana territory is the Petroleum Exploration Co., one of the Trico organizations of Sistersville, W. Va. The Wiser Oil Co., a member of this organization, has drilled several wells in Spencer County and also around Princeton, but the biggest project to be tackled thus far in Indiana by this organization is the leasing of 40,000 acres in Monroe and Lawrence Counties. Since early in the year the company has worked on three blocks of acreage in the two counties and now has completed the leasing proposition for a time. The Trico News says: "The fact that the 40,000 acres are rank wildcat leaves little encouragement that production will be found and, like thousands of other blocks of a similar nature, all tests may prove dry. On the other hand, it is just logical to argue that the chance of striking oil or gas is there and while the geological structure found in the territory may mean nothing, at the same time it does show the possibilities of finding production. There is one positive certainty, if no effort is made to test for oil on wildcat acreage it never will be found. The two wells now being drilled by the Petroleum Exploration Co. will doubtless give some information concerning the area, but will require several test wells to determine where there is oil or gas in such a large territory. Should even a small well result from the drilling it will be worth the effort and expenditure. Future developments of the Indiana acreage will be watched with considerable interest to the oil trade in general."

In the old Trenton Rock area of the State, in Adams County, George S. Lacknett's No. 3, on the Otto Baker, Section 4, Jefferson Township, is credited with an initial of 15 bbls., and Lacknett's second test on the Sam S. Egley farm, Section 3, is also a 15-bbl. initial producer, with No. 3 drilling. O'Neill Brothers are drilling on the John Teeter farm, Section 6, same township.

Pike County

In Pike County, C. Burdone and others' test on the John McAtee, Location 12, Clay Township, is said to show 1,000,000 feet of gas at 1,348 feet, and William Bell & Co.'s test on the R. C. Hyneman, Survey 9, same township, indicates an initial of 10 bbls. Reicher and others' test in the southeast corner of the Pruit Crow farm, NW, Section 19, Washington Township, reported dry at 1,119 feet. Ohio Oil Co. abandoned Nos. 2, 3 and 4 on the John Snyder heirs, Section 36, Madison Township, same county. The test being drilled by Robertson and others on the Byron Preston farm, Section 30, Washington Township, is due for a shot, but was delayed. This well is 3 miles east of Petersburg. Oil operators have been busy leasing all available pieces of property between Petersburg and the Preston farm, including lots in the town of Alford, 2 miles east of Petersburg. Ever since the big Jumbo gas well was drilled in at Petersburg in 1897 oil men have sought an oil pool adjacent to the city of Petersburg. Recently great gas wells, with volumes of from 2,000,000 to 5,000,000 feet per day have been drilled on the Aaron George lease, 3 miles east of Petersburg and only about 1,000 feet east of the Preston well, which shows that oil does exist there.

The well drilled by C. E. Whmer and others on the S. M. Cantrell farm, Section 2, Columbia Township, Gibson County, is reported dry at 1,695 feet.

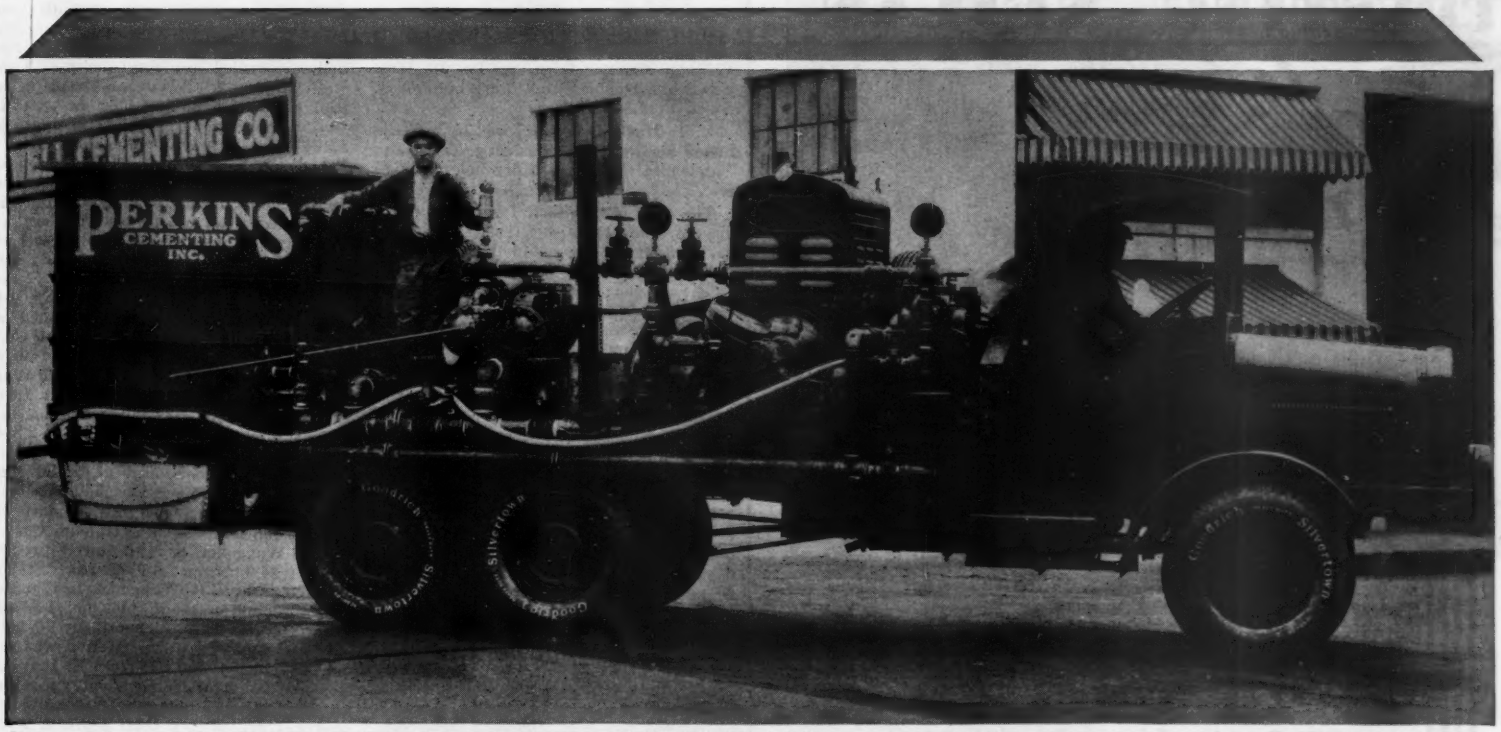
L. G. Gee and others found an unusually good oil well in No. 3 on the Alonzo Veale farm, Section 21, Veale Township, Daviess County, the initial production being 40 bbls. from 1,320-35 feet, or 15 feet in the sand. Same parties abandoned No. 1 on the McDougal heirs, same section.

Charles W. Scott and others' No. 4 well, 200 feet from the north line and 660 feet from the east line of the Charles W. Scott farm, NE, Section 6, Fairbanks Township, Sullivan County, produced 30 bbls. the first 24 hours at 2,171 feet. The W. C. Kennedy Co.'s No. 5, in the center of the Alex Raley farm, Section 33, Turman Township, produced 2 bbls. at 802 feet.

Spencer County

In the southern part of Indiana, in

This oil field Cementing machine



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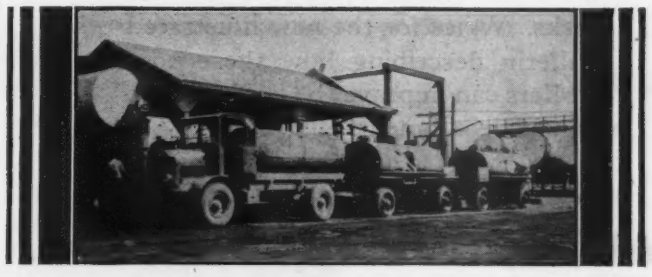
FWD *has* FWD *Traction and Power. . .*

THE service of FWD Trucks in the Oil Fields is not alone limited to hauling — special Oil Field equipment such as the cementing machine shown above, pumps and others depend on FWD for *Traction* and *Power.*

Because of the poor ground conditions of these fields, trucks have possibly the roughest kind of traveling. In the FWD greater traction is assured—this because of the FWD principle. And through this construction feature, the power is transmitted through the propeller shafts, bevel gear drives and full floating axles directly to the spot where it is needed . . . FWD Trucks are used in fleets in this field because they have proven themselves equal to the service. Let our oil field representatives give you specific figures on how FWD Trucks can serve you. Write for special oil bulletin.

THE FOUR WHEEL DRIVE AUTO CO., Clintonville, Wis.



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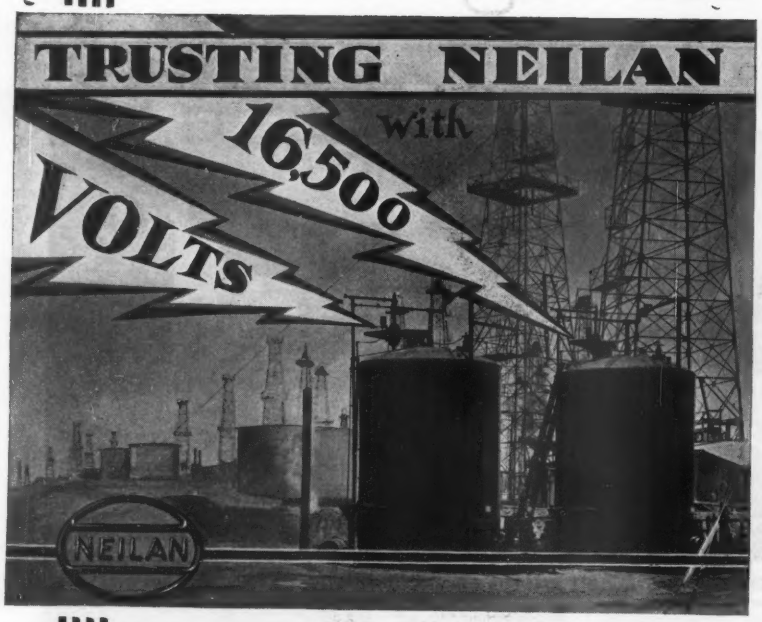

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In the de-emulsification of crude oil by the "Petreco" process, 16,500 volts are shot between two electrodes submerged in the crude to be treated. On the top of each dehydrating unit is an ever-alert Neilan Ball Bearing Liquid Level Controller which operates a switch that turns on the 16,500 volts only when the tank is completely filled.

Neilan Liquid Level Controllers are also reliably performing hundreds of other important liquid level control tasks. Write for the new illustrated bulletin describing how these controllers can improve the performance of your equipment.

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"NOTHING SUCCEEDS LIKE QUALITY"

Spencer County, Ellis & Young's test, on the Charles Huffman farm, Section 2, is a dry hole, as is the Eastern Gulf Oil Co.'s test on the Catherine Powell farm, near Santa Claus, at 1,123 feet.

In Perry County, which adjoins Spencer, the Packard Oil Co.'s No. 1, on the George Beaver farm, is a duster at 795 feet, while Glenn & Knollman's test, on the Glenn farm, Section 18, Tobin Township, is a duster, with No. 2 drilling.

After standing idle for many months the test of Wheeler and others, on the William Messner farm, Section 16, Cass Township, Dubois County, has been abandoned at 1,350 feet.

L. I. Martin's test on the John Wills farm, Section 32, Armstrong Township, Vandeburg County, is a dry hole at 1,585 feet.

The test of the Shell Petroleum Corp. on the John Emmison farm, in Survey 11, of Johnson Township, Knox County, is reported good for 8 bbls. at 1,723 feet.

The second test made by James W. Hunt on the Isaac Chrystler farm, in Clay Township, Lagrange County, has been abandoned and the rig and tools have been moved for a well on the Clair Shoup farm, same vicinity.

ILLINOIS

The Associated Producers uncovered a nice producer in No. 20 well, 1,700 feet from the south line and 500 feet from the west line of the J. F. Snyder farm, NE, Section 25, Dennison Township, Lawrence County, which produced 100 bbls. initial and dropped to 50 bbls. a day and holding up at that rate. Silurian Oil Co. abandoned No. 14 H. D. Hinkle farm, Section 26, which was a long-time producer at a depth of 1,834 feet, in what is known as the McCloskey sand. Same company abandoned No. 2 same farm, at 1,637 feet which is either the Kirkwood or Green sand. Ohio Oil Co. abandoned No. 5 E. Meagher farm, Section 5, and Blesser and others are drilling on the Charles Gillespie farm, Section 1. In Petty Township, the Ohio Oil Co. is drilling No. 16 Clinton Thorn farm, Section 12, and John Phipps and others are drilling on the H. J. Wright, Section 30, same township.

In Wabash Township, Wabash County, A. Smith and others' test near the southwest corner of the J. D. Thompson farm, SW, Section 33, was dry at 1,700 feet. Ridge Farm Oil & Gas Co.'s second test on the Ed Wright, Section 13, was dry. Joseph S. Young and others abandoned No. 2 Jess Cisel No. 2 farm, Section 2, and No. 2 on Jess Cisel No. 1 farm, same section. In Friendsville Township, same county, J. D. Toomey and others' No. 7 well, 600 feet from the north and east lines of the Mary A. Litherland farm, SW, Section 5, pumped an initial of 20 bbls. at 1,547-85 feet, and drilling No. 8. No. 2, same farm, was abandoned.

In Cahokia Township, Macoupin County, the Duncan Foundry & Machine Works drilled a dry hole in No. 6 on the Heye Weyer farm, Section 9.

In Monroe County, Waterloo Township, Tucker and others abandoned Nos. 1, 2 and 3, Charles Ruick farm.

Dupo Shallow Field

In the Dupo shallow field in Sugar Loaf Township, St. Clair County, the Ohio Oil Co.'s No. 12 on the Matilda Dyroff farm, SE, Section 28, produced 100 bbls. initial. Same company's No. 2 I. S. Gaskill, Section 24, pumped 75 bbls. in 24 hours. Moody and Seagraves' second test on the Missouri Pacific Railroad property, Section 21, pumped 20 bbls. initial. Clarence Roques and others' No. 1 Elizabeth Showman lot, SE, Section 21, pumped 40 bbls. Felsen & Roberts' No. 1 J. M. Peel lot, SE, Section 21, pumped 15 bbls. Petty & Olenburg abandoned No. 1 on the Oscar Miller, Section 34, same township.

NORTH, WEST TEXAS AND PANHANDLE COMPLETIONS

(Continued from Page 59)

Panhandle Refining Co.'s No. 10 Burnett was dry and abandoned at 1,458 feet. J. G. Rowe's No. 3 Waggoner was dry and abandoned at 1,492 feet. Rubsam Hunter and others' No. 12-B McClure was dry and abandoned at 2,016 feet.

Wilbarger County

Empire Gas & Fuel Co.'s No. 21-B Waggoner had an initial production of 220 bbls. at 2,272-98 feet. Its No. 22-B Waggoner had an initial production of 200 bbls. at 2,270-2,302 feet and was drilled to a total depth of 2,305 feet. Its No. 14-C Waggoner had an initial production of 150 bbls. at 1,870-92 feet and was drilled to a total depth of 1,895 feet. Its No. 15-C Waggoner had an initial production of 112 bbls. at 2,345-70 feet and was drilled to a total depth of 2,374 feet. Fain & McGaha's No. 1 Waggoner had an initial production of 80 bbls. at 2,295-2,307½ feet. Their No. 10 Waggoner made 100 bbls. oil and 120 bbls. water after having been drilled to a total depth of 2,410 feet and plugged back to 2,336 feet. Golding-Cochran and others' No. 2-K Waggoner was dry and abandoned at 1,940 feet. Their No. 1-L Waggoner was dry and abandoned at 1,930 feet. Greyback Development Co.'s No. 1 Jones Waggoner was dry and abandoned at 1,969 feet. Harris's No. 1 Waggoner was dry and abandoned at 1,947 feet. Lewis' No. 11 Waggoner had an initial production of 50 bbls. at 2,384-2,409 feet. Lewis' No. 6-B Waggoner was dry and abandoned at 2,480 feet. Roberts' No. 2 Waggoner made 70 bbls. after having been shot with 5 quarts at 2,395-2,408 feet. Shell Petroleum Corp.'s No. 4 Waggoner had an initial production of 24 bbls. at 2,428-45 feet. Staley-Wynne's No. 6-B Waggoner had an initial production of 85 bbls. at 1,883-90 feet. Its No. 2 Waggoner made 70 bbls. at 2,432 feet. Its No. 1 Melton was dry and abandoned at 2,451 feet. E. P. Waggoner's No. 2 Waggoner had an initial production of 75 bbls. at 2,394-2,410 feet and was drilled to a total depth of 2,451 feet. Its No. 3 Waggoner was dry and abandoned at 2,551 feet. Waggoner Refining Co.'s No. 10-J Waggoner was dry and abandoned at 2,453 feet. Their No. 11-J Waggoner had an initial production of 102 bbls. at 2,396-2,402 feet.

Young County

Allday and others' No. 1 Clark was dry and abandoned at 574 feet. Bridwell Oil Co.'s No. 1 Culler had an initial production of 10 bbls. at 568-74 feet. Their No. 2 Culler had an initial production of 30 bbls. at 615-24 feet. Continental & Underwood's No. 3 Campbell had an initial production of 39 bbls. at 880-905 feet. Fowler and others' No. 1 Hill had an initial production of 45 bbls. at 1,044-45 feet. Holbrook & Woods' No. 3 Dean had an initial production of 8 bbls. at 538-45 feet. Panhandle Refining Co.'s No. 1 Farmer was dry and abandoned at 852 feet. Its No. 1 Prideaux had an initial production of 10 bbls. after having been shot with 10 quarts at 720-31 feet. Its No. 2 Prideaux had an initial production of 80 bbls. at 717-33 feet. Perkins-Cullum's No. 3 Lemmond had an initial production of 192 bbls. at 725-32 feet. Riggs & Williams' No. 1 Shatto was dry and abandoned at 602 feet.

RANGER DISTRICT

Brown County

American Maracaibo's No. 18 Bush had an initial production of 8 bbls. at 1,120-25 feet. Bearman and others' No. 5 Miller had an initial production of 30 bbls. at 1,082-84 feet. Buder, trustee, No. 4 Munselle was shot with 20 quarts at 1,162-67 feet and had an initial production of 25 bbls. Humble Oil & Refining Co.'s No. 1 Johnson had an initial production of 25 bbls. at 1,295-1,301 feet. Prairie Oil & Gas Co.'s No. 1 Reaves was dry and abandoned at 1,350 feet. Its No. 11 Williams was dry and abandoned at 1,220 feet. E. L. Smith's No. 1 Kessler had an initial production of 25 bbls. at 1,305-15 feet. Its No. 4 Truhart had an initial production of 25 bbls. at 1,125-36 feet. The Texas Company's No. 7 Kessler had an initial production of 330 bbls. at 1,301-23 feet. Ven-Mex Oil Co.'s No. 7-D Hickman had an initial production of 20 bbls. after being shot with 20 quarts at 1,274-86

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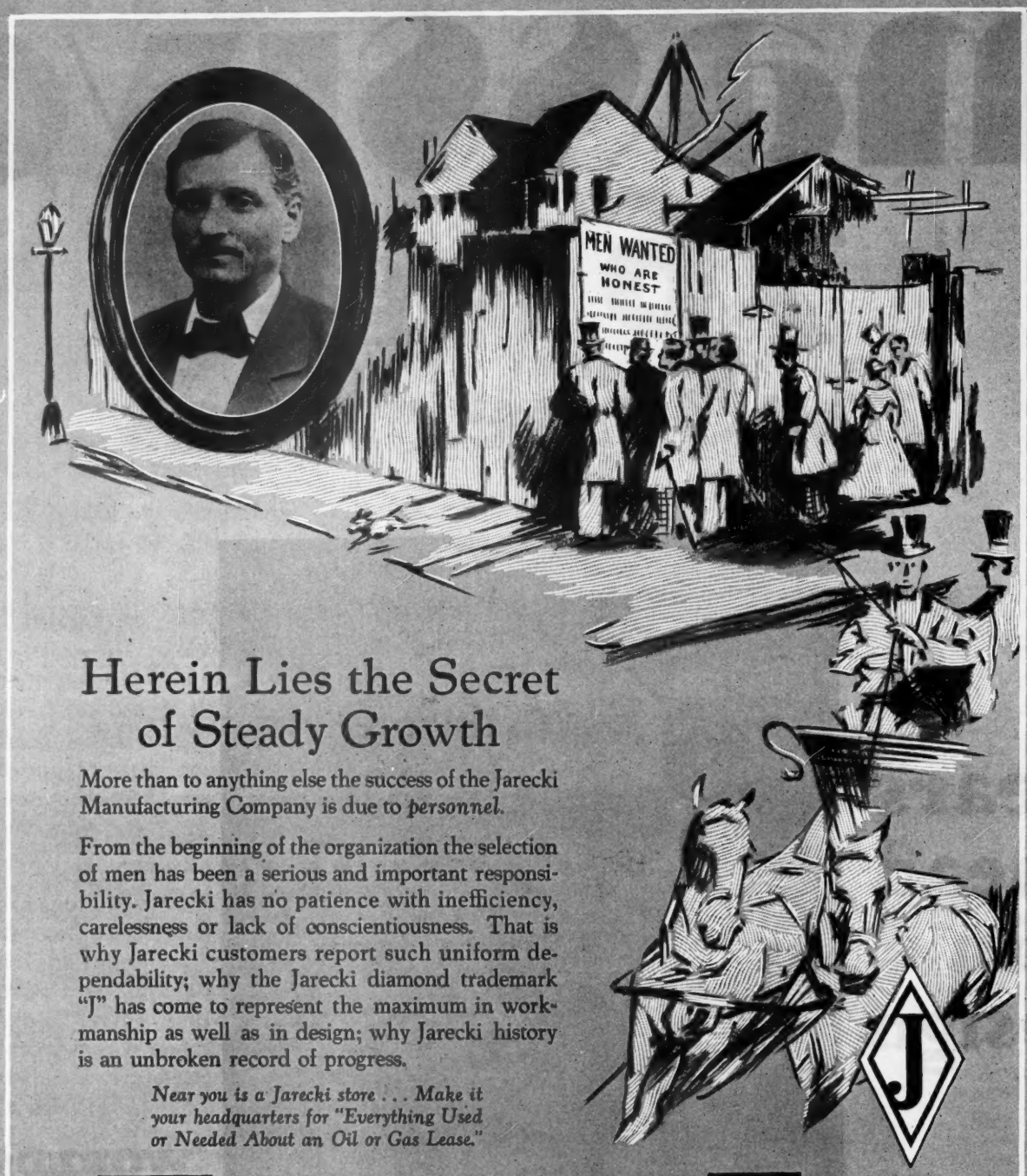

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From the beginning of the organization the selection of men has been a serious and important responsibility. Jarecki has no patience with inefficiency, carelessness or lack of conscientiousness. That is why Jarecki customers report such uniform dependability; why the Jarecki diamond trademark "J" has come to represent the maximum in workmanship as well as in design; why Jarecki history is an unbroken record of progress.

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feet. Lloyd Oil Co.'s No. 1 Henderson was dry and abandoned at 980 feet.

Callahan County

McClanahan & Eastland's No. 1 Powell was dry and abandoned at 1,303 feet.

Coleman County

Broderick & Calvert's No. 3 Weaver was dry and abandoned at 1,873 feet. Midwest Exploration Co.'s No. 1 Buck was dry and abandoned at 2,033 feet. Morrison and others' No. 1 Young was dry and abandoned at 1,970 feet. S. B. Owens' No. 1 Curry was dry and abandoned at 1,342 feet. White Eagle Oil Co.'s No. 6 Morris had an initial production of 450 bbls. at 2,014-39 feet. Its No. 8 Morris had an initial production of 150 bbls. at 1,972-2,020 feet. Charter Oil Co.'s No. 5 Crump was dry and abandoned at 1,875 feet. Rex-Tex & Py-Tex's No. 2 Baker had an initial production of 10 bbls. oil, 3 bbls. water at 1,375-83 feet. Stepp & Keister's No. 5 Moody was dry and abandoned at 1,872 feet.

Eastland County

Dyar's No. 2-B Cunningham was dry and abandoned at 4,100 feet. Chestnut & Smith Corp.'s No. 1 Alex had an initial production of 50 bbls. oil and 1,000,000 feet of gas at 3,425-64 feet.

Parker County

W. P. Chancellor's No. 1 Womack was temporarily abandoned at 2,097 feet.

Shackelford County

Ackerman & Scriven's No. 1 Hills was temporarily abandoned at 770 feet. A. J. Hughes' No. 1 Davis was dry and abandoned at 1,753 feet. Morton T. Craig's No. 1 Davis location was abandoned. Roeser & Pendleton and Humble's No. 1-C Titus had an initial production of 5 bbls. at 479-88 feet. J. K. Simmons' No. 1 Harvey was dry and abandoned at 1,901 feet. Slicker Homer's No. 5 Matthews had an initial production of 5 bbls. at 1,130-40 feet.

PANHANDLE COMPLETIONS

Carson County

Empire Gas & Fuel Co.'s No. 19 Burnett, Section 89, Block 5, I.&G.N.R.R. Survey, made 26,000,000 feet of gas from 2,210-2,375 feet, and was drilled to a total depth of 2,535 feet. Its No. 1 Deahl, Section 4, Block 5, B.&B.R.R. Survey, was drilled to a total depth of 2,869 feet and made 15,000,000 feet of gas from 2,605-2,869 feet.

Gray County

McMan Oil & Gas Co.'s No. 3 Saunders, located J. G. Eustis Survey, had an initial production of 100 bbls. at 2,810-20 feet and was drilled to a total depth of 2,828 feet. Danciger Oil & Refining Co.'s No. 5 Beck, located Section 28, Block B-2, H.&G.N.R.R. Survey, had an initial production of 1,070 bbls. first 24 hours at 2,844-52 feet. Dye & Gillette's No. 2 Noel, located Section 187, Block 3, I.&G.N.R.R. Survey, was drilled to a total depth of 3,285 feet. Phillips Petroleum Corp.'s No. 7 Palmer was drilled to a total depth of 2,904 feet, topped the pay at 2,845-60 feet and 2,880-87 feet, and had an initial production of 170 bbls. The Texas Company's No. 4 Cook-Faulkner had an initial production of 2,000 bbls. at 2,820-23 feet. Wilcox-Pampa Oil Co.'s No. 9 Combs-Worley, located Section 35, Block 3, I.&G.N.R.R. Survey, had an initial production of 240 bbls. at 2,950-56 feet.

Cottle County

Sun Oil Co.'s No. 1 T. B. Yarbrough was dry and abandoned at 4,353 feet.

Hall County

Rio Bravo Oil Co.'s No. 1 Hughes estate was dry and abandoned at 5,232 feet.

Hartley County

Canadian River Gas Co.'s No. 11 Lee Bivins was dry and abandoned at 4,949 feet.

Hutchinson County

Phillips Petroleum Corp.'s No. 1 Johnson-Katz, located Section 35, Block Y, had an initial production of 15 bbls. first 24 hours and 2,000,000 feet of gas, topped the pay at 3,027 feet and was drilled to a total depth of 3,035 feet.

Moore County

Phillips Petroleum Corp.'s No. 1 Wilson was drilled to a total depth of 3,450 feet, was plugged back to 3,250 feet and made 42,000,000 feet of gas at 2,793-3,180 feet. Skelly Oil Co.'s No. 10 Armstrong & Byrd was drilled to a total depth of 3,183 feet, topped the pay at 3,180 feet and had an initial production of 225 bbls. first 24 hours and 202 bbls., 25 per cent water, second 24 hours.

Wheeler County

Magnolia Petroleum Corp.'s No. 1 Laycock, Section 9, Block 27, H.&G.N.R.R. Survey, was drilled to a total depth of 2,329 feet, topped the pay at 2,251-2,329 feet and had an initial production of 8,000,000 feet of gas. Martin & Debaus' No. 1 Pitsch was drilled to a total depth of 1,817 feet, topped the pay at 1,655-1,817 feet and made 2,500,000 feet of gas. Murchison & Fain's No. 3 Close was drilled to a total depth of 1,570 feet, topped the pay at 1,500-75 feet and made 4,000,000 feet of gas. Osage Development Co.'s No. 1 Purcell was drilled to a total depth of 1,891 feet, topped the pay at 1,678-1,891 feet and had an initial production at 12,000,000 feet of gas. Vaughn and others' No. 5 Ackley was drilled to a total depth of 1,864 feet, topped the pay at 1,825-64 feet and made 40,000,000 feet of gas.

WEST TEXAS COMPLETIONS

Crane County

Simms & Atlantic Oil Producing Co.'s No. 10-A University, located 2,310 feet south and east of Section 39, Block 30, topped the pay at 2,935 feet, was shot with 90 quarts from 2,903-68 feet and with 10 quarts from 2,918-28 feet and had an initial production of 160 bbls. daily.

Crockett County

Young & Donnelly's No. 1 Shannon, located Section 42, Block BB, T.C.R.R. Survey, had an initial production of 125 bbls. at 2,556 feet.

Fisher County

Cosden-Herbert's No. 3 Bickley location was abandoned.

Howard County

Merrick & Bristow's No. 9 Hooks topped the pay at 1,840 feet, was drilled to a total depth of 1,955 feet, had an oil show at 1,840-97 and 1,933 feet, was shot with 20 quarts from 1,921-41 feet and again with 20 quarts at 1,900-21 feet and had an initial production of 75 bbls. Schermerhorn Oil Co.'s No. 6 Roberts location was abandoned. Shell Petroleum Corp.'s No. 1-B Settles, located Section 135, Block 29, W.&N.W.R.R. Survey, topped the pay at 2,950 feet, was drilled to a total depth of 2,954 feet and had an initial production of 581 bbls. in 20 hours. Shell Petroleum Corp.'s No. 1 Kloh-Rumsey topped the pay at 2,170 feet, was drilled to a total depth of 2,305 feet, and had an initial production of 550 bbls. in 24 hours.

Ward County

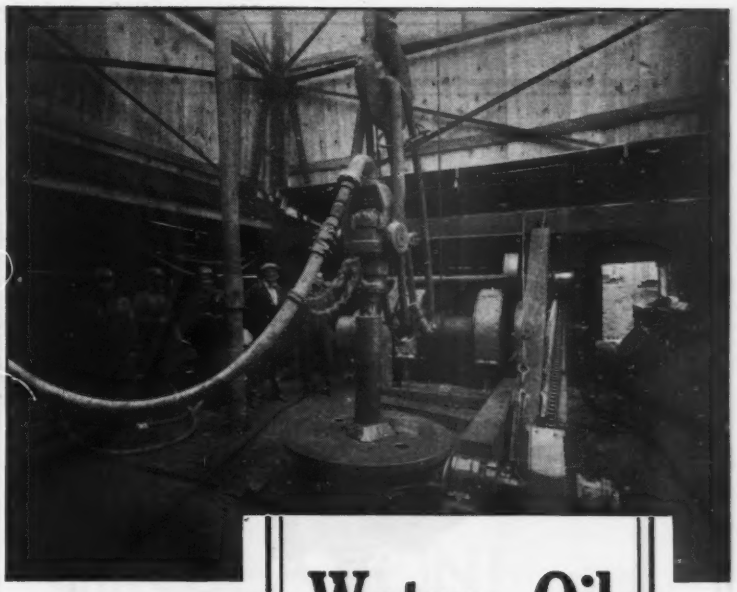
Penn & Atlantic's No. 1 Pecos Mercantile Co. was drilled to a total depth of 2,618 feet, plugged back to 2,615 feet, with a slight increase of oil at 2,553-67 feet and an increase in gas at 2,558-67 feet. It was shot with 210 quarts at 2,498-2,610 feet and the well cleaned self and flowed and swabbed 216 bbls. first 24 hours. It is now cleaning out 70 feet off bottom.

Pecos County

Continental Oil Co.'s No. 1-A University topped the pay at 990 feet, was drilled to a total depth of 996 feet and had an initial production of 200 bbls. daily. Perren and others' No. 1 Eaton, located 150 feet each way from NE NW line Section 27, Block 39, H.&T.C.R.R. Survey, was completed as gasser and made 18,000,000 feet of gas at 1,490-1,502 feet. Taylor-Link's No. 3 University had an initial production of 100 bbls. at 1,589-1,622 feet. This well is located in Section 31, Block 16.

Winkler County

American-Maracaibo's No. 2-B Hendricks, located 1,650 feet west and 198 feet south of Section 28, Block B-5, topped the lime at 2,599 feet, topped the pay at 2,721 feet, encountered salt water at 2,928 feet, was drilled to a total depth of 3,416 feet, plugged back to 2,768 feet, shot with 40 quarts at 2,725-40 feet and with 140 quarts at 2,715-40 feet and had an initial production of 60 bbls. daily. Atlantic Oil Producing Co.'s No. 6-B Hendricks, located 330 feet north



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O&JG 10-17 Gray

and 2,310 feet west of Section 44, Block 26, topped the lime at 2,779 feet, topped the pay at 2,835 feet, was drilled to a total depth of 2,899 feet and had an initial production of 351 bbls. daily. Shell-Llano Oil Co.'s No. 7 Scarborough, located 330 feet north and 1,660 feet west of Section 2, Block 77, topped brown lime at 2,525 feet, topped salt at 1,260 feet, was plugged back to 3,356 feet from 3,371 feet and had an initial production of 90 bbls. daily.

HAZARDS OF COURTESY CARDS IN MARKETING

(Continued from Page 151)

In as much as retail business is built on good will, this is a very desirable feature.

Identifying Charges

Most service station men use a dull pencil and seem to prefer worn out carbon; it is doubtless true if they were good penmen they would have a better position than service station men; as a result many times the customer's name is illegible and many times the customer's signature, written while the book was lying on the steering wheel or car door, is more so. In such cases, the card number, which can usually be read, is the clue that furnishes the correct name and address of the customer, as it is a simple matter to maintain an alphabetical list of all cards, cross-indexed numerically.

Do not furnish a list of customers to the boomer employe, who occasionally gets on the pay roll only to go down the road the next week trying to peddle what information he was able to pick up to some unethical competitor who will pay cash for such information. Some concerns further safeguard against this by having a number only on courtesy cards, all charges being made to this number and later charged to the proper account in the office, but due to the customer's signature being necessary on charge tickets to substantiate a charge, our company has decided in favor of a card showing both name and number as being more feasible for our business, although the numbered card probably had many advantages, especially where purchases are purely local, as it doubtless causes the card to be produced every time a charge is made, and many times we know our station men are careless regarding this point, especially with regular customers.

Lost and stolen cards in the hands of a dishonest party will cause trouble as customers often neglect to notify us of the loss. This occasionally allows some crook to get 30 to 45 days' supply of products, but in our experience seldom occurs. The loss in this way is so small it can only be considered as one of the necessary evils in any business where accounts are carried.

Stop credit notices on delinquent customers, lost and stolen cards, are published immediately when necessary and furnished all stations, and receipts taken therefor, one copy being furnished other divisions who in turn bulletin their stations. Should a card on such list be presented to substantiate a charge, the employe is required to collect cash for the merchandise and take up the card. If he does not do so, the amount lost through his carelessness is deducted from his salary. One or two deductions will cure the most careless employe. The date on the charge ticket compared with the date on the receipt in the office showing when the stop notice reached the particular station where the charge originates determines whether the deduction is justified.

Safeguard Accounts

If station men are required at all times to secure card number and show it on charge ticket, there is little chance of an unauthorized party charging merchandise to the account; whereas, if it becomes known that some other method of authorizing individual accounts is used, a crook may get by occasionally. This unpleasant experience recently occurred to us on one of our "watch" accounts authorized by notice to one station only. Someone discovered this party had an account at the station and got away with several fills of gasoline from a new employe before it was discovered that the man buying was not the person he was representing himself to be. Losses of this kind are usually small, but will occasionally occur in any business.

EFFECT OF NATURAL GAS ON OIL EXTRACTABILITY

Reporting progress to June 30, 1929, on Project 33, Effect of Natural Gas Upon the Viscosity, Surface Tension, Adhesion and General Extractability of Petroleum of Various Types, and the variation of the pressure-gradient with distance of the rectilinear flow of gas satuated oil through unconsolidated sands, the American Petroleum Institute research division says:

The rate of flow of an unsaturated or saturated crude oil is inversely proportional to the length of the flow tube.

Unsaturated crude oils flow faster at the same input pressure than do the same oils when saturated with either air or gas—the gravity, viscosity, temperature, and surface tension being constant.

The pressure-gradient throughout the entire length of a flow tube is a straight-line curve when unsaturated oils are used; i. e., the rate of flow and pressure drop per foot is uniform, and it is proportional to the input or discharge pressure (back pressure).

Air saturated crude oil will flow faster at the same input pressure than gas-saturated oil, and the pressure gradient curve will be straighter.

Viscosity is the prime factor affecting the rate of flow of an unsaturated crude oil.

Gas saturated crude oils of low viscosity respond better to back pressure and pressure control than do air saturated or unsaturated oils.

Gas or air bubbles in a saturated mixture cause least resistance to flow when high back pressures are used, and are released slowly to pressure slightly below the input pressure. Applying high back pressure after gas or air saturated crude has been subjected to open flow will not obtain the same rate of flow as would be obtained by gradually opening the discharge valve to high back pressure, permitting the gas to come out of solution slowly, thus controlling the size of the bubbles between the sand grains. Bubbles, when once formed, are difficult to reduce in size sufficiently to re-establish initial rate of flow.

The work described in the annual report on this project for last year (Bulletin of the American Petroleum Institute, September 7, 1928) was continued in order to find the effect of the porosity on the rate of flow. The flow-formula which was determined empirically is:

$$\frac{V}{t} = \frac{295\,A\,P\,d^{1.68}\,r^{b}}{N\,L}$$

where V/t is the rate of flow in cc. per sec.

P/L is the pressure drop in cm. of mercury per cm. length of sand column.

b is 4.14—0.0141/d.

A is the cross sectional area of sand column in sq. cm.

d is the diameter of a spherical grain in cm.

N is the viscosity of the liquid in poises.

r is the porosity, i. e., the fraction of the total space which is occupied by the grains.

Experimental work on the flow of a gas saturated oil through a cylindrical capillary tube has been carried out. The data have not yet been investigated sufficiently to allow any statement of conclusions. However, the indications were that there is no so-called "Jamin Action" in cylindrical glass capillaries when oil is used for the liquid and when gas bubbles are even over one centimeter long.

300 MILES TO GALLON

Charles F. Kettering emphasizes there is enough power in 1 gallon, if one could utilize it all on mere car push, not taking into consideration engine friction and so forth, to drive a small car on a level paved road, at 20 miles an hour, 300 miles.

With the NEW CP "Tucone" ROCK BIT

9 POINTS OF SUPERIORITY

1. SAFETY—Extra large drop-forged spindle bearings. No cone bushings. One-piece bit head. One-piece reamer body. FISHING ELIMINATED
2. CIRCULATION—Fluid stream jets directly on bottom of hole. No side-wall hydraulicking. STRAIGHT HOLE
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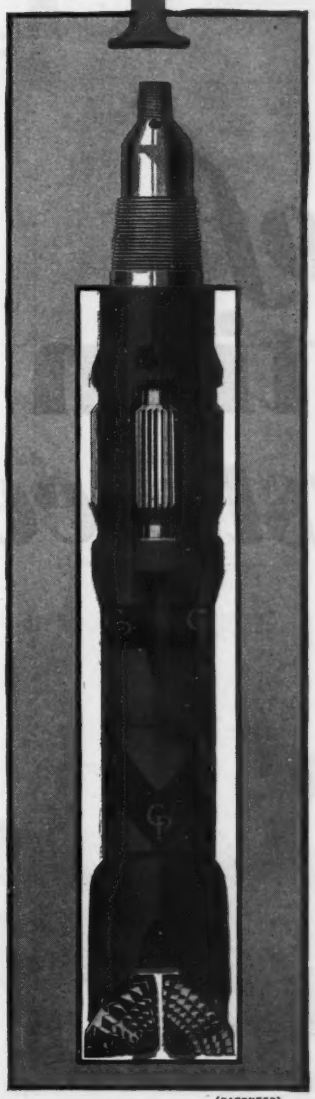
4. CONES AND SPINDLE BEARINGS—Cones run on extra large replaceable drop-forged spindle bearings. Stronger and thicker cone wall section due to absence of bushing. GREATER STRENGTH
5. REAMERS—Three units, properly spaced and located for accurate reaming. New type reamer bearing eliminates wear on reamer body. KEEPS GAUGE — ALWAYS!
6. ONE-PIECE BODIES—Both bit and reamer bodies are solid manganese steel. GREATER STRENGTH
7. REPLACEMENTS—Cone-and-bearing units and reamers easily and quickly changed. TIME SAVED
8. LOW MAINTENANCE—Body repairs eliminated. No wear on bit head or reamer body. MONEY SAVED
9. CONE SERVICE—New CP "Red Head" cutting cones can be refitted on your used bearings (only at authorized CP Service Stations) and guaranteed by CP to be as good as if a new bearing were used—at a great saving to you! ECONOMY

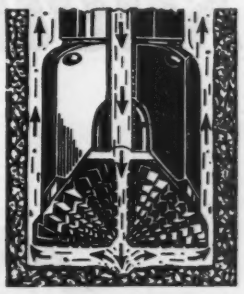


(PATENTED)

CIRCULATION!

Fluid stream jets directly on bottom of hole. No side-wall hydraulicking!

STRAIGHT HOLE!



Showing unobstructed fluid stream jetting directly on bottom of hole and promoting proper expulsion of loosened structure.

THE cutting cones are SEPARATED to a scientifically determined degree. Their position allows the fluid stream to jet directly on the bottom of the hole and promotes the proper washing of the loosened structure for expulsion. (See illustration above.) Due to this lack of obstruction of the fluid stream, there is no SIDE-WALL HYDRAULICKING, no undue pressure exerted upon the sides of the hole to cause side-hole washouts and lead the bit from its true, vertical course. CROOKED HOLES, DUE TO SIDE-WALL HYDRAULICKING, ARE ELIMINATED!

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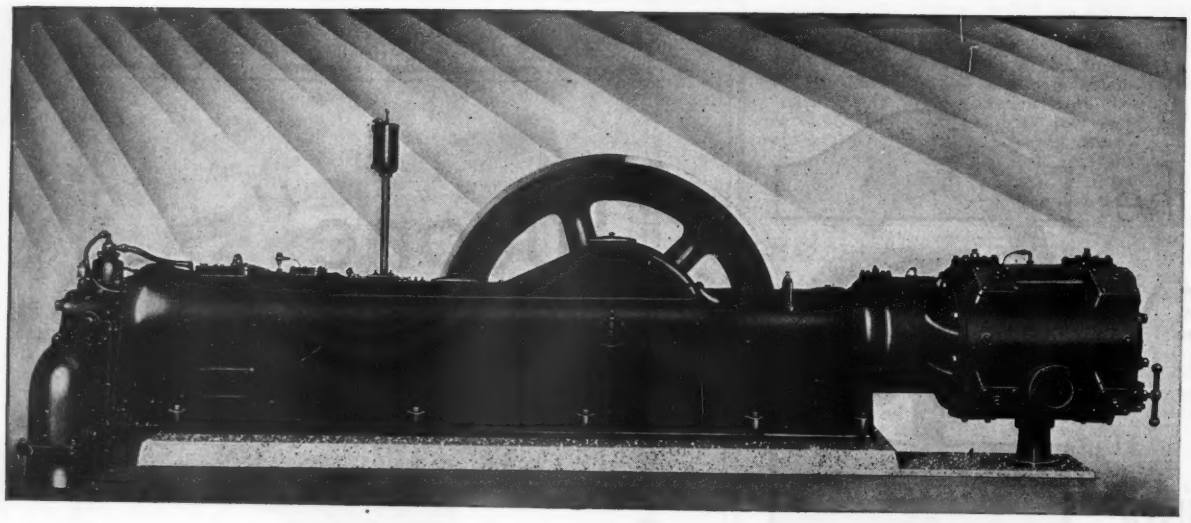
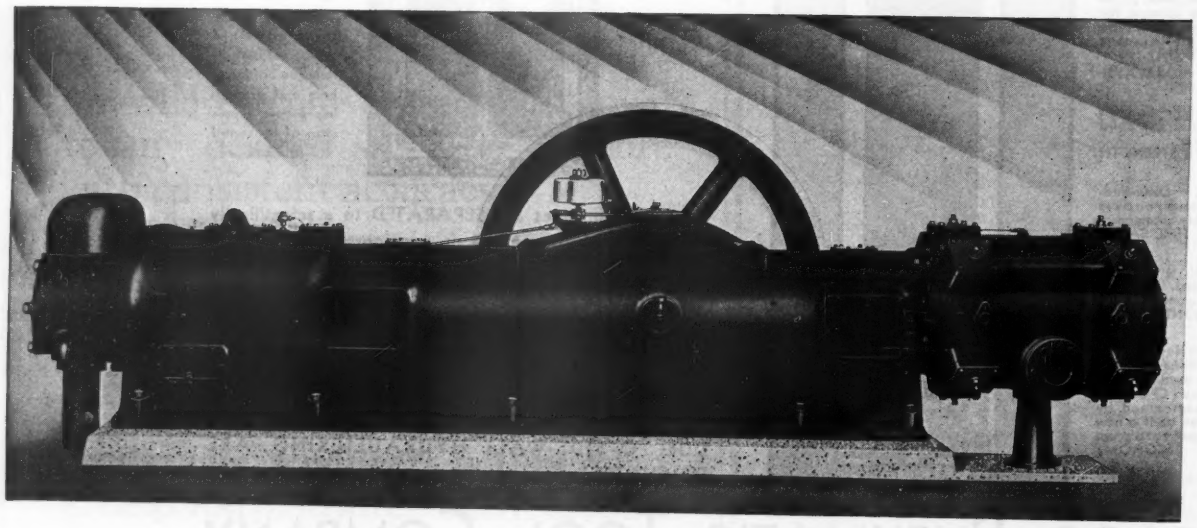
KEEPS GAUGE ...ALWAYS! OT-12

That the use of CP "Tucone" Rock Bits will unquestionably result in lower drilling costs, we are ready and willing to prove in any way YOU say! An inquiry to any of the above addresses will receive immediate attention.



The Center of Attraction at the show last week



NEVER takes long to spot the star attraction. Didn't take long at Tulsa last week. Both inside the "arena" and about town, first pop and incessantly came the question

"Seen the Watts-Miller Booth? Don't miss it."

And here's the why of so much interest in Watts-Miller:

Important additions to a line of compressors that already rank first all through the Mid-Continent field. New major features and a degree of rugged simplicity in design that appealed to practical-minded men.

Then, too, the exhibit was gotten up so one could actually peep inside through a glass window and see "the wheels go round" as the small boy says.

If you were there, you know; if not so fortunate, let us tell you what the little boy saw.

WATTS GAS ENGINES AND COMPRESSORS **MILLER**

The Miller Improved Gas Engine Company

Springfield, Ohio

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

(Continued from Page 44)

HARPER COUNTY

Boeler et al's No. 1 Bear, C NE Sec. 21-31-6w ..... Spudding.
Tom Slick Oil Co.'s No. 1 Miller, SE cor. Sec. 13-34-8w ..... Drlg. 5,030 ft.
Tom Slick Oil Co.'s No. 1 Thompson, NW cor. Sec. 19-32-6w ..... Viola 4,936-50 ft.; show oil, testing.
Independent & Reserve Oil Co.'s No. 1 Moulds, C NE Sec. 7-24-1w ..... Fishing 2,600 ft.

HARVEY COUNTY

Liggett et al's No. 1 Regler, C SE NW SE Sec. 2-23-3w.. Drlg. 2,365 ft.
E. W. Marland, Inc.'s No. 1 Chambers, C NE SE NE Sec. 8-24-2 ..... Rig.
Payne and others' No. 1 Ady, NE NW SE Sec. 16-24-1 .... Drlg. 3,448-59 ft.; hole full water; total depth 3,460 ft.; abandoned.
Deering-Marshall's No. 1 Dick, Sec. 4-25-2w ..... Drlg. 3,770 ft.
McCulloch et al's No. 1 Prouty, NW cor. SW Sec. 3-23-1w ..... Drlg. 2,370 ft.
Roth & Parrent's No. 1 Brombrowsky, NW cor. Sec. 26-22-1e ..... Hole full water 3,414-20 ft.; total depth 3,505 ft.; abandoned.
Mrs. Gay et al's No. 1 Grove, C NW NE NW Sec. 29-23-1w ..... Drlg. 3,295 ft.
Jolly & Ogg's No. 1 Randall, NE cor. NE Sec. 11-24-1w... Shut down 3,444 ft.
Jolly & Ogg's No. 1 Hupp, SE cor. NE Sec. 22-23-1w .... Shut down 3,220 ft.
Walton Oil Co.'s No. 1 Neiman, C SE SW Sec. 13-14-2 .... Drlg. 1,625 ft.

HODGEMAN COUNTY

Phillips Pet.'s No. 1 Hausman, NW NE Sec. 30-22-22w.. Drlg. 3,760 ft.

JEFFERSON COUNTY

Wichita Oil Co.'s No. 1 Simpson, NW cor. SW SW Sec. 19-10-17 ..... Rigged up and shut down.

KIOWA COUNTY

British-American's No. 1 Woodward, NE cor. Sec. 35-27-17w ..... Wilcox sand 5,037-40 ft.; hole full water; shut down.

KINGMAN COUNTY

D. P. Fleeger's No. 1 Ashcraft, SE SW NE Sec. 16-28-7w ..... Drlg. 1,610 ft.
White Eagle's No. 1 Lorenz, C NE SW SE Sec. 25-27-5w.. Drlg. 2,414 ft.

LANE COUNTY

Robinson's No. 1 Dickerson, Sec. 11-18-27w ..... 8-in. csg. 2,625 ft.
Blankenship Pet. Co.'s No. 1 Schaeffer, NE cor. NE Sec. 24-16-28w ..... Spudded and shut down.

LYON COUNTY

Sheedy et al's No. 1 Welch, NE cor. Sec. 30-20-10 ..... Drlg. 2,380 ft.

MARION COUNTY

Marshall et al's No. 1 Higgins, NE cor. Sec. 33-19-5 .... Rig.
White Eagle's No. 1 Ucker, NE NW Sec. 24-17-2 ..... Rig on ground.
American O. & R. Co.'s No. 1 Urie, NW SW NW Sec. 10-17-3 ..... Drlg. 2,400 ft.
Empire's No. 1 Reising, NE NW NW Sec. 34-20-2 ..... Drlg. 2,385 ft.
Davis et al's No. 1 Bartel, SE NE Sec. 1-19-1 ..... Wilcox 3,198-3,212 ft.; hole full water; abandoned; total depth 3,320 ft.

McPHERSON COUNTY

Howard & Travers' No. 1 Cornelius, SW cor. Sec.. 7-21-4 .. Spudding.
Kansas Oil Co.'s No. 1 Otto, SW NW Sec. 21-21-1w .... Rig.
Reynolds et al's No. 1 Koohn, NE SE NE Sec. 15-20-2w .. Rig.
McPherson O. & G. Co.'s No. 1 Fisk, SW NE NE Sec. 15-21-2w ..... Drlg. 1,633 ft.
McPherson O. & G. Co.'s No. 1 Sorenson, C SE Sec. 23-18-2w ..... Drlg. 2,035 ft.
Milmac's No. 1 Decker, NW cor. Sec. 11-20-3w ..... Rig.
Lario et al's No. 1 Diener, SE SW Sec. 10-20-1w ..... Drlg. 2,510 ft.
Perry et al's No. 1 Wade, C SE Sec. 20-19-4w ..... Drlg. 2,910 ft.
E. W. Marland's No. 1 Swanson, NE SW NE Sec. 36-18-4w. Dry and abandoned 3,705-22 ft.
Slick, Pryor & Lockhart's No. 1 Gratton, C NE NW NW Sec. 34-20-3w ..... Drlg. 2,745 ft.
Helmerich & Payne's No. 1 Klassen, 3E NE NE Sec. 14-21-1w ..... Drlg. 3,300 ft.
McPherson Gas Co.'s No. 1 Chinberg, NW cor. Sec. 18-19-2w ..... Total depth 3,585 ft.; plugging back to 2,992-3,045 ft.
McPherson O. & G. Co.'s No. 1 Rasmusson, SW cor. Sec. 8-18-3w ..... Drlg. 3,285 ft.
Transcontinental Oil Co.'s No. 1 Algers, NE SW Sec. 1-19-5w ..... Drlg. 2,930 ft.

MORTON COUNTY

White & Chaney's No. 1 Love, NE cor. Sec. 11-34-42w .. Rig on ground.

NESS COUNTY

E. W. Marland, Inc.'s No. 1 Moses, NE SE Sec. 7-18-25w.. Drlg. 3,960 ft.

OSBORNE COUNTY

Phillips Pet. Co.'s No. 1 Greive, NW SE NE Sec. 6-7-12w.. Drlg. 3,390 ft.
Mid-Kansas' No. 1 Boyce, SE cor. NW Sec. 18-6-13w .... Drlg. 3,190 ft.

PAWNEE COUNTY

F. C. Troupe's No. 1 Lovett, CEL NE NE Sec. 31-21-16w.. Shut down 1,560 ft.

PRATT COUNTY

O'Haver & Jones' No. 1 Garacke, C NE SW Sec. 7-26-14w ..... Drlg. 300 ft.
O'Haver & Jones' No. 1 Lunt, C SW NW Sec. 15-28-14w .. Drlg. 4,390 ft.
Wilcox O. & G. Co.'s No. 1 Unknown, SW NW Sec. 7-26-15w ..... Drlg. 140 ft.

RENO COUNTY

Empire O. & R. Co.'s No. 1 Blitz, NE NW Sec. 36-25-4w ..... Drlg. 1,400 ft.
Kaiser & Murphy's No. 1 Friessen, SE cor. NE Sec. 6-22-4e ..... Location.
Wilson et al's No. 1 McPhaeters, C S half NW Sec. 22-26-8w ..... Drlg. 325 ft.
Witt's No. 1 Olsen, C SE NW Sec. 14-22-6w ..... Shut down 50 ft.
Skelly Oil Co.'s No. 1 Birkett, NE SW Sec. 30-24-7w .... Drlg. 3,650 ft.
Milmac Oil Co.'s No. 1 Strickley, SW cor. NW Sur. 17-26-5w ..... Drlg. 3,760 ft.

RICE COUNTY

Boucher's No. 1 Bieg, Sec. 16-21-10w ..... Rig.
Miller & Detrick's No. 1 Shumway, C SW Sec. 2-20-9w .. Drlg. 2,350 ft.
Burgher's No. 1 Fair, C SE NE NE Sec. 14-21-10w ..... Rig.
Derby Oil Co.'s No. 1 Johnson, C NW NE SE Sec. 24-20-6w ..... Fishing 2,300 ft.
Milmac's No. 1 Cain, C SE Sec. 29-19-7w ..... Fishing 2,720 ft.
Allison & Fitzwilliams' No. 1 Poland, NE cor. SW NE Sec. 36-19-8w ..... Cellar.
Higgins & Steinbuchel's No. 1 Shurr, NE cor. SW Sec. 21-20-10w ..... Swabbing 3,278-84 ft.; 220 bbls.
Curtis et al's No. 1 Green, C NW Sec. 33-19-6w ..... Location.
Danciger et al's No. 1 Bell, C SW Sec. 16-19-8w ..... Location.
Langston et al's No. 1 Shumway, C SW Sec. 2-20-9w .... Location.
McCullough et al's No. 1 Williams, C NE Sec. 35-20-8w.. Rig.

RILEY COUNTY

Arkansas Fuel Oil Co.'s No. 1 Martin, SE NE SW Sec. 24-8-4 ..... Spudding.
Grey et al's No. 1 Smith, NE SE Sec. 30-6-6 ..... Shut down 1,970 ft.
Derby & Shaw's No. 1 Lindstrom, NE cor. Sec. 32-7-5e .. Fishing 2,246 ft.

RUSSELL COUNTY

Cress & Hacke's No. 1 Unknown, SE cor. Sec. 6-13-12w.. Rig on ground.
Midwest Exploration's No. 1 Benson, SW cor. Sec. 4-14-15w ..... Drlg. 595 ft.
Prairie Oil & Gas Co.'s No. 1 Brungardt, C NW SE NW Sec. 31-12-15w ..... Fishing 1,985 ft.
Empire and Prairie's No. 1 Bocks, C SE NE NE Sec. 23-15-14w ..... Drlg. 3,355 ft.

ROOKS COUNTY

Kruger et al's No. 1 Stels, NW SE SW Sec. 12-9-16w.... Shut down 50 ft.
Burford-Brim's No. 1 Toxa, Sec. 22-9-17w ..... Shut down 1,049 ft.

The Supreme Court defines Good-Will

THE U. S. Supreme Court has defined good-will as "the disposition of a pleased customer to return to the place where he has been well treated."

It could not be better said in so few words—or better illustrated than by the return of our customers, year after year, with increasing purchases of Greenspon's pipe.

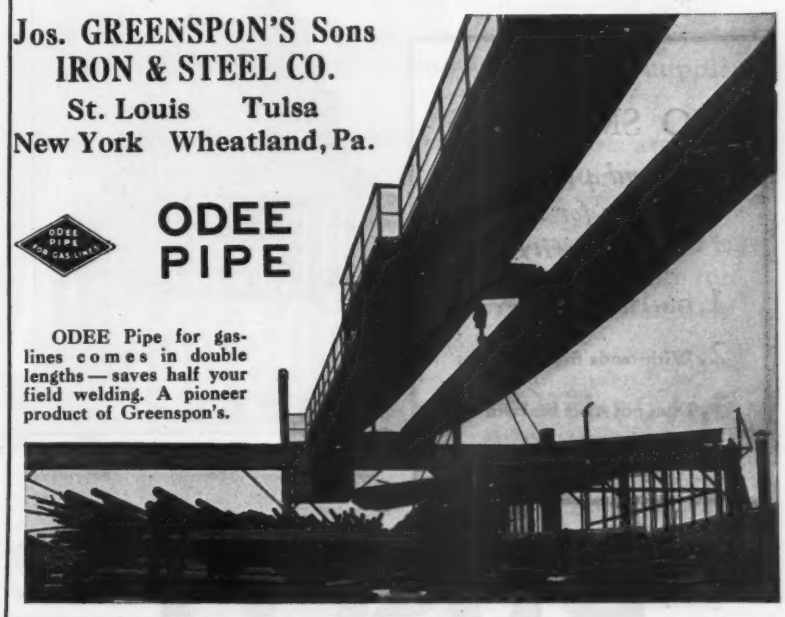
Mile by mile and month by month the total of our pipe used in the petroleum industry grows. Pleased customers return, to avail themselves of the protection given by our guarantee and the satisfaction given by our product.

Whatever your pipe requirements, we'll meet them accurately and speedily. Write, wire, or 'phone for quotations and delivery dates. Any of our offices will welcome your inquiry.

Jos. GREENSPON'S Sons
IRON & STEEL CO.
St. Louis Tulsa
New York Wheatland, Pa.

ODEE PIPE FOR GAS LINES

ODEE PIPE



ODEE Pipe for gas-lines comes in double lengths — saves half your field welding. A pioneer product of Greenspon's.

GREENSPON'S
PIPE FOR ALL PURPOSES

NO SMOKING

• • •

with Rusco Industrial Brake Lining

THERE are no offensive fumes and no suffocating smoke to blind and choke the workers when your oil well rigs are equipped with Rusco Industrial Brake Lining. For Rusco contains no rubber or other ingredients that smoke excessively under frictional heat.

Rusco Industrial Brake Lining is manufactured from selected long fibre, Canadian Chrysotile asbestos, solidly woven on powerful 10-ton looms of our own special design and construction.

Because of its high asbestos content and sturdy, solid woven construction, Rusco gives exceptionally long service. It does not score brake drums.

Rusco Industrial Brake Lining is available in all sizes up to 20 inches in width.

If you do not know the name of the nearest Rusco supply dealer, write us for complete information. Address Dept.V-17, The Russell Mfg. Co., Middletown, Conn. In Canada, The Russell Mfg. Co., Ltd., St. Johns, P. Q. Also manufacturers of Rusco Belting.

NO SMOKING

and 4 other Reasons for Rusco Superiority

1. Gives longer service
2. Withstands frictional heat
3. Does not score brake drums
4. Waterproof and oil proof

RUSCO
INDUSTRIAL
BRAKE LINING

RUSH COUNTY

Milmac's No. 1 Mohr, C NW Sec. 11-18-16w ..... Shut down 560 ft.
Central Commercial Oil Co.'s No. 1 Brock, SE cor. SW SW Sec. 12-17-16w ..... Shut down 50 ft.
Danciger Oil Ref. Co.'s No. 1 Pivonka, NE cor. SW NE Sec. 17-19-17w ..... Underreaming 3,905 ft.

SALINE COUNTY

Dixie Oil Co.'s No. 1 Thorstenburg, NW NE Sec. 10-16-3w ..... Drlg. 2,885 ft.
Austin et al's No. 1 Olsen, NW SW SE Sec. 10-15-4w .... Drlg. 2,580 ft.
Templeman's No. 1 Lanbengager, C SW Sec. 20-15-5w .. Drlg. 2,965 ft.
Twin Mounds' No. 1 Weis, NW NE NW Sec. 20-13-4w ..... Shut down 625 ft.

SEDGWICK COUNTY

Moore's No. 1 Stewart, C NE SE NW Sec. 18-28-1w .... Rig.
Tavender et al's No. 1 McLean, SE SW SE Sec. 23-26-1w ..... Rig.
Wentz Oil Corp.'s No. 1 Allison, NE NW Sec. 24-26-2 .... Spudding.
Plains Oil Co.'s No. 1 Curry, SE SW SW Sec. 2-27-1w .... Drlg. 3,135 ft.
Wilson et al's No. 1 Ottaway, SW NW Sec. 16-28-2w .... Rig.
C. B. Davis' No. 1 Kinkead, NE cor. Sec. 14-27-1 ..... Underreaming 3,155 ft.
Marland and Amerada's No. 1 Sensorth, NW cor. Sec. 25-28-4w ..... Underreaming 3,270 ft.
Boyle's No. 1 Sandusky, NW NE SE Sec. 34-26-1w ..... Drlg. 2,750 ft.
Lario O. & G. Co.'s No. 1 Teachorff, NE cor. SW Sec. 27-29-1w ..... Abandoned 3,860 ft.; hole full water 3,810-50 ft.
Barnett O. & G. Co.'s No. 1 Davidson, NW cor. NW SW Sec. 27-26-1e ..... Shut down 3,007 ft.
Kellar & Lewis' No. 1 Buckles, NW cor. SE Sec. 3-28-1w .. Fishing 975 ft.
Washabaugh et al's No. 1 Harrison, NW cor. NE NE Sec. 3-26-2w ..... Drlg. 3,545 ft.
LaFont et al's No. 1 Carlton, C SE SE SW Sec. 24-28-1e .. Shut down 1,685 ft.

SHAWNEE COUNTY

Jenkins & Scott's No. 1 Unknown, NW NE Sec. 28-10-15 ..... Rig.
Jenkins & Scott's No. 1 Haden, NE SE Sec. 8-12-14 .... Shut down 750 ft.
Omar O. & G. Co.'s No. 1 Allen, SE NE NW Sec. 2-11-14 ..... Drlg. 2,295 ft.

SHERIDAN COUNTY

Mandalin O. & G. Co.'s No. 1 Unknown, C SE SW SW Sec. 27-7-26w ..... Spudded; shut down.

SHERMAN COUNTY

A. L. Henson et al's No. 1 Murry, NE cor. SE NW Sec. 22-7-40w ..... Shut down 3,035 ft.

STAFFORD COUNTY

Phillips Petroleum's No. 1 Houghton, SW cor. Sec. 20-21-12w ..... Shut down 50 ft.

STEVENS COUNTY

McKenna's No. 1 Unknown, C NW NW Sec. 29-33-36w .. Shut down 50 ft.
Trees Oil Co.'s No. 1 Thompson, C NE SW Sec. 3-35-38w .. Shut down 500 ft.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w ..... Shut down 1,320 ft.

SMITH COUNTY

Phillips Pet.'s No. 1 Clydesdale, SE NW Sec. 23-5-14w .. Drlg. 2,770 ft.

SUMNER COUNTY

Kingwood Oil Co.'s No. 1 Stayton, C NE Sec. 18-31-2w .. Drlg. 590 ft.
Slick et al's No. 1 Peasel, NW cor. Sec. 33-31-1w ..... Drlg. 650 ft.
Lario O. & G. Co.'s No. 1 Osborne, NE SE Sec. 21-30-1w ..... Drlg. 1,665 ft.
E. K. Carey & Larado Oil Co.'s No. 1 Welsch, SW SE Sec. 9-34-1e ..... Drlg. 2,300 ft.
Mid-Continent Pet. Corp.'s No. 1 Clark, SE cor. Sec. 31-34-3w ..... Drlg. 4,565 ft.
Shell Pet. Corp.'s No. 1 Armstrong, NE cor. Sec. 12-33-1e. Drlg. 2,568 ft.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w ..... Rig.

TREGO COUNTY

Dixie & Amerada's No. 1 Reitmayer, C NE NE Sec. 19-14-21w ..... Rig.
Prairie Oil & Gas Co.'s No. 1 Kutina, C NE SW NE, Sec. 29-15-21w ..... Drlg. 1,700 ft.
Producers & Refiners Corp.'s No. 1 Kingsley, C SE NW NW Sec. 24-14-21w ..... Drlg. 110 ft.
Phillips Pet. Co.'s No. 1 Spitz, SE cor. Sec. 24-12-25w .. Drlg. 1,445 ft.
Mid-Kansas' No. 1 Ridgeway, NE SW Sec 28-12-21w .. Drlg. 3,385 ft.
Day et al's No. 1 Gugler, SW NE NE Sec. 36-12-21w .... Shut down 50 ft.
Day et al's No. 1 Unknown, NE NW SW Sec. 2-11-21w .. Shut down 2,910 ft.

WASHINGTON COUNTY

McCool & Vincent's No. 1 Linn, NW cor. NE Sec. 27-4-3 .. Shut down 2,300 ft.

WALLACE COUNTY

Morton & Entyre's No. 1 Parker, SE cor. NW SW Sec. 20-13-41w ..... Spudded; shut down.

WILDCAT OPERATIONS IN NEBRASKA

FRANKLIN COUNTY

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w ..... Rig.

CHASE COUNTY

Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w .... Drlg. 4,080 ft.

FURNAS COUNTY

Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW SW Sec. 28-1n-22w ..... Shut down 1,750 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w .. Drlg. 3,250 ft.

WEBSTER COUNTY

Mid-States Exploration Co.'s No. 1 Platt, C SE one-half Sec. 3-1n-11w ..... Shut down 555 ft.

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless otherwise marked)

(Continued from Page 42)

HARPER COUNTY

Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w ..... Drlg. 5,312 ft.

HASKELL COUNTY

Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e ..... Shut down 1,200 ft.
Marion Oil's No. 1 Sanders, NW NE SW Sec. 10-9-18e .. Shut down 2,387 ft.
Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e .. Shut down 2,100 ft.

HUGHES COUNTY

Wright et al's No. 1 Ott, SE SW Sec. 15-5-11 ..... Rig.
Canady et al's No. 1 Kanard, NW SW Sec. 29-9-12 .... Shut down 1,200 ft.
Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10 ..... Rig on ground.
McCullough Oil Co.'s No. 1 Scott, NW NE Sec 23-6-8 .... Drlg. 3,095 ft.
Whitney et al's No. 1 Moore, SE SW Sec. 17-5-9 ..... Fishing 3,936 ft.

JACKSON COUNTY

Altus Oil Co.'s No. 1 Northington, NE cor. NE Sec. 4-1-20w ..... Shut down 2,020 ft.

KINGFISHER COUNTY

Superior Oil Co.'s No. 1 Story, SE cor. Sec. 25-19-5w .... Fishing 6,285 ft.
Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w ..... Shut down 6,015 ft.

KIOWA COUNTY

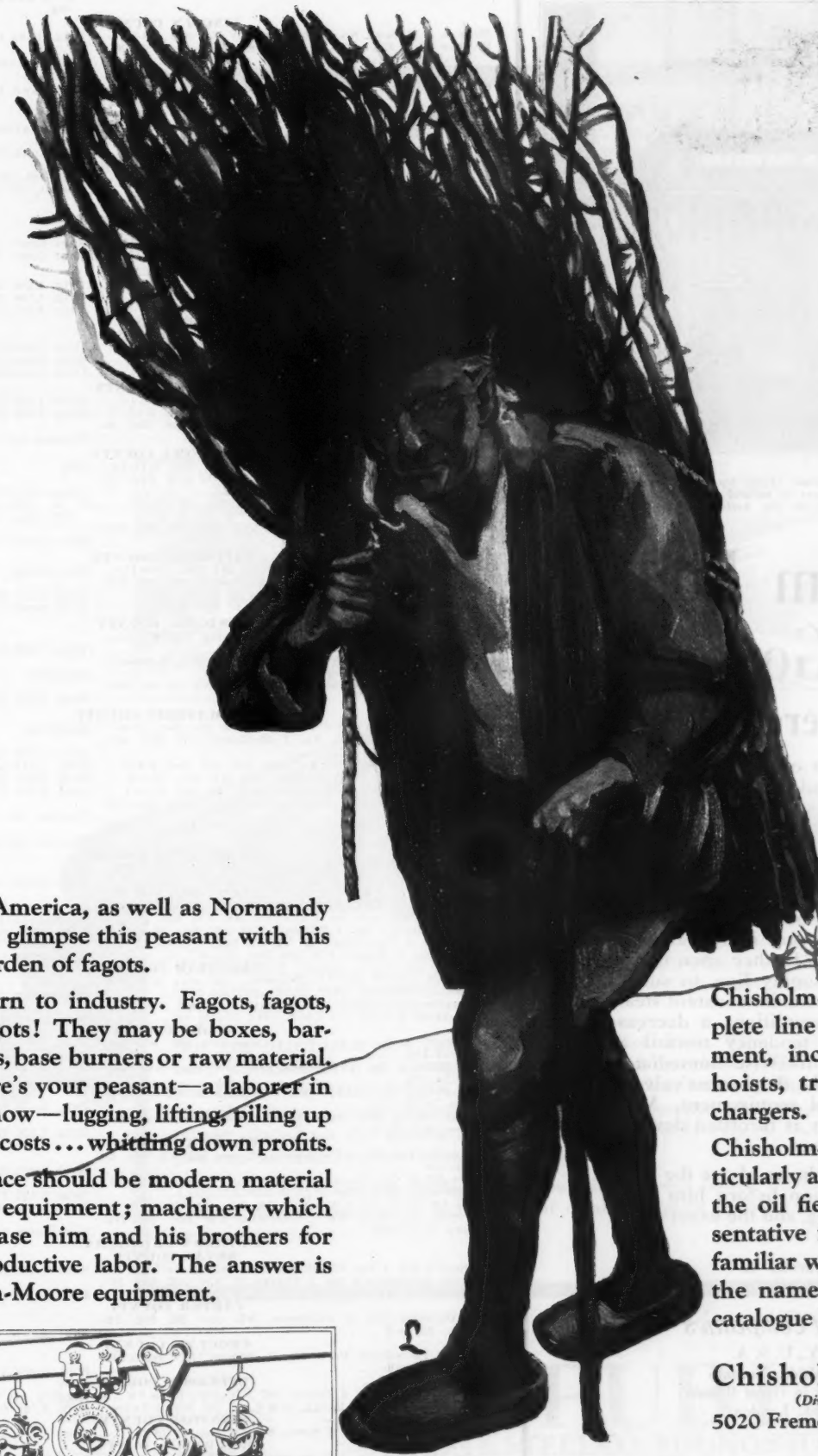
Hyde et al's No. 1 Jones, SE cor. Sec. 23-3-18w-50 ..... Shut down 490 ft.
Merrick Oil Co.'s No. 1 Kelly, NW cor. SE Sec. 20-7-17w .. Shut down 1,035 ft.
McWharter and others' No. 1 Sherwood, CWL NW NE Sec. 2-5-17w ..... Shut down 1,100 ft.

LEFLORE COUNTY

Red Bank Oil Co.'s No. 1 fee, SE SW NW Sec. 23-9-24 .. Drlg. 4,943 ft.

LATTIMER COUNTY

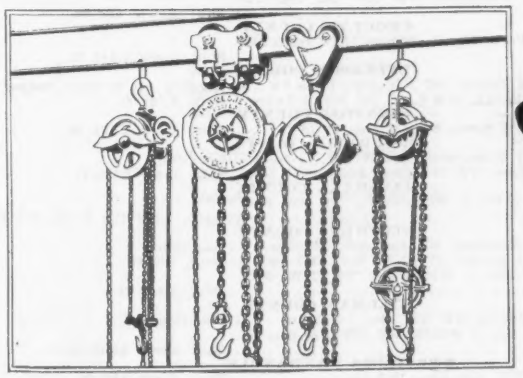
Limestone O. & G. Co.'s No. 1 Shaw, NW cor. NE NW Sec. 23-5-18e ..... Shut down 1,450 ft.



IN America, as well as Normandy we glimpse this peasant with his burden of fagots.

Turn to industry. Fagots, fagots, fagots! They may be boxes, barrels, base burners or raw material. And there's your peasant—a laborer in overalls now—lugging, lifting, piling up handling costs . . . whittling down profits.

In his place should be modern material handling equipment; machinery which will release him and his brothers for more productive labor. The answer is Chisholm-Moore equipment.



Chisholm-Moore manufactures a complete line of material handling equipment, including chain hoists, electric hoists, traveling cranes and cupola chargers.

Chisholm-Moore Chain Hoists are particularly adapted to the requirements of the oil fields. There is a C-M representative in your territory now, who is familiar with your problems. Write for the name of this expert and our new catalogue No. 50.

Chisholm-Moore Hoist Corp.
(*Division of Columbus-McKinnon Chain Co.*)
5020 Fremont Ave. Tonawanda, N. Y.
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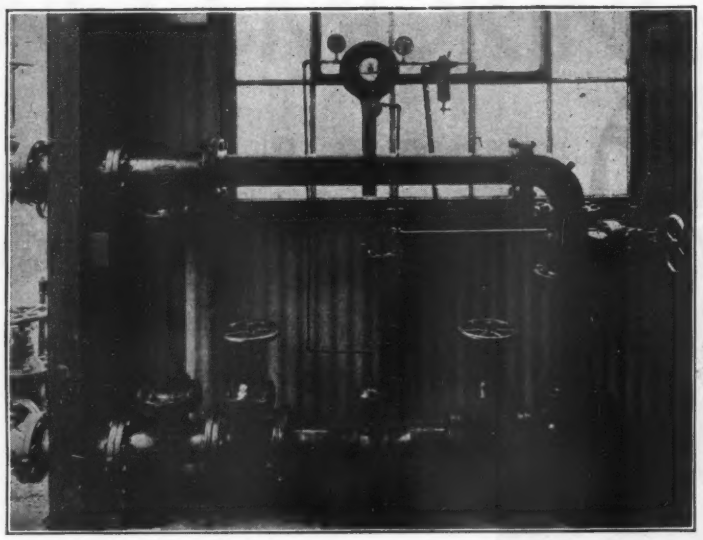
CHISHOLM-MOORE
CHAIN HOISTS CRANES TROLLEYS CUPOLA CHARGERS ELECTRIC HOISTS

NEW YORK PHILADELPHIA CLEVELAND CHICAGO PITTSBURGH



Tycos Steam Boiler Gas Fuel Governor (Pilot Operated), maintaining constant steam header pressures in natural gasoline power plant by regulating the gas supply to the battery of boilers.

Tycos Steam Boiler Gas Fuel Governor

(Pilot Operated)

THIS installation insures constant steam pressures under varying load conditions by properly regulating the gas fuel supply to the burners. Full steam pressures are maintained under extreme operating conditions, thus insuring a high efficiency and consistent operation of the boiler plant.

An increase in steam consumption or tendency toward a drop in boiler pressure immediately reacts through the regulator to further open the diaphragm valve in the gas supply line, to such a position as is necessary to maintain constant steam pressures under this new condition; a decrease in steam consumption, or tendency toward an increase in boiler pressure likewise immediately re-acts to throttle down on the diaphragm valve to meet this more limited fuel requirement. More gas is admitted or the supply is throttled down as the load increases or decreases.

With the Tycos installation shown above the operator has complete information before him as to the pressures he is controlling, and the exact action of the control valve.

Write today for further information on this installation.

Taylor Instrument Companies
ROCHESTER, N. Y., U. S. A.
Canadian Plant, *Tycos* Bldg., Toronto
Manufacturing Distributors in Great Britain:
Short & Mason, Ltd., London

Tycos
Temperature Instruments
Indicating Recording Controlling

Limestone Oil & Gas Co.'s No. 1 McMurray, SW cor. SW Sec. 15-5-18 ....Sandy lime 3,950-54 ft.; 2,000,000 ft. of gas; pulling big pipe; fishing.

LINCOLN COUNTY

Morgan & Flynn's No. 1 Johnson, SW NE Sec. 1-16-5 ....Drlg. 1,000 ft.
Phillips Pet. Co.'s No. 1 Stephens, SE cor. NW Sec. 29-12-3 ....To test 4,242-46 ft.

LOGAN COUNTY

Haley & Smith's No. 1 Guier, SE cor. SW Sec. 33-18-3w ..Shut down 3,970 ft.

McINTOSH COUNTY

Jennings Bros.' No. 1 Crabtree, NW SW NE Sec. 31-10-14 ....Rig on ground.
Spring Valley Oil Co.'s No. 1 Carr, SE cor. NE NW Sec. 16-10-13e ....Shut down 2,508 ft.
Patterson and others' No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ....Shot 240 qts. 5,446-5,559 ft.; shot went off up hole; fishing.

MAJOR COUNTY

Earl and others' No. 1 Turner, C NE NE Sec. 23-20-14w..Rig.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19 ....Shut down 1,011 ft.
Cooper-Badget's No. 1 Young, NW NE NE Sec. 7-12-20e..Shut down 50 ft.

NOBLE COUNTY

Peerless et al's No. 1 Wentz, NW SW Sec. 22-22-1 ....Drlg. 1,240 ft.
Gypsy Oil Co.'s No. 1 Bailey, C NE NE Sec. 24-22-1e ..Drlg. 4,930 ft.
Magnolia Petroleum's No. 1 King, C SE SW Sec. 26-20-1w..Drlg. 4,950 ft.

OSAGE COUNTY

Peters and Producers & Refiners' No. 1, SE cor. Sec. 19-26-7 ....Drlg. 2,940 ft.
White Eagle's No. 1, SW SE NE Sec. 23-26-7 ....Shut down 3,095 ft.
Oliphant et al's No. 1, NE cor. Sec. 13-24-6 ....Drlg. 2,030 ft.

OKFUSKEE COUNTY

Henry Oil Co.'s No. 1 Harjo, Sec. 36-12-9 ....Drlg. 1,220 ft.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10 ..Drlg. 2,675 ft.
Superior and others' No. 1 Carolina, SE cor. Sec. 6-11-7e ....Rigging up standard tools 4,805 ft.

OKLAHOMA COUNTY

Ryan & Martin's No. 1 Lawton, NE NW Sec. 3-11-2w ..Rig.
Tom Slick Oil Co.'s No. 1 Martin, C NW NW Sec. 13-13-1w ....Drlg. 5,640 ft.
Mid-Kansas' No. 1 Trosper, NE NW Sec. 19-12-1w ....T. D. 6,904 ft.; P. B. 6,177 ft.; 320 bbls. oil, completed.
Hall & Briscoe's No. 1 Holmes, NE cor. SW SE Sec. 10-11-3w ....Shut down 4,750 ft.

PITTSBURG COUNTY

Galbreath's No. 1 Snyder, C W half SW Sec. 28-4-13 ....Shut down 100 ft.
Empire O. & R. Co.'s No. 1 Williams, C NE SE Sec. 33-7-16e ....Drlg. 2,310 ft.
Kerr & Koy's No. 1 Hall, C NW NW Sec. 32-4-12 ....Shut down 2,580 ft.

PONTOTOC COUNTY

Indian Territory Illuminating Oil Co.'s No. 1 McFarland, NW cor. Sec. 4-5-5 ....Drlg. 2,450 ft.
Indian Territory Illuminating Oil Co.'s No. 1 Shoate, C NE SE Sec. 1-4-4 ....Location.
Independent and Shaffer's No. 1 Moses, NE SE SW Sec. 10-5-4 ....Drlg. 2,745 ft.

POTTAWATOMIE COUNTY

Prairie O. & G. Co.'s No. 1 Bodkin, SW cor. Sec. 26-8-4 ..Spudding.
Empire O. & R. Co.'s No. 1 McKown, SW NW Sec. 25-8-4 ....Drlg. 4,050 ft.
Keister & Manning's No. 1 Tibbs, NE SW Sec. 9-8-4 ....Drlg. 4,013 ft.
Amerada's No. 1 Vineyard, NW NE NE Sec. 15-7-3 ....Drlg. 4,820 ft.
Gypsy Oil Co.'s No. 1 Randolph, NW NE Sec. 23-6-4 ....Drlg. 2,815 ft.
Shaffer and Margay's No. 1 Murphy, NW NE Sec. 11-6-3 ....Fishing csg. 4,632 ft.
Cal-Cul Oil Co.'s No. 1 McKnight, NW cor. NE NW Sec. 9-8-3 ....Rigging up standard tools 4,815 ft.

ROGER MILLS COUNTY

Bucy & Stone's No. 1 Williams, C SW Sec. 23-12-24w ..Rig.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w ....Shut down 1,800 ft.

SEMINOLE COUNTY

Sunray Oil Co.'s No. 1 Sunday, NW SE Sec. 25-5-5 ....Location.
McCullough Oil Co.'s No. 1 Luckett, NE NW Sec. 28-10-5..Abandoned 4,903-10 ft.; water.
Prairie & Slick's No. 1 Bettsey, NW SW Sec. 36-6-6 ....Drlg. 3,595 ft.
Harris' No. 1 Harjoche, SE NE SE Sec. 8-6-6 ....Drlg. 3,830 ft.
Prairie's No. 1 Mingo, NW NE Sec. 25-6-6 ....Drlg. 2,900 ft.

SEQUOYAH COUNTY

Hunt and others' No. 1 Unknown, SE cor. NW SW Sec. 12-12-22 ....Shut down 1,260 ft.
Buffington and others' No. 1 Melcher, C SW NW Sec. 31-12-24 ....Shut down 3,000 ft.

WOODS COUNTY

Peerless O. & G. et al's No. 1 Cromwell, SW SE Sec. 14-28-16w ....Shut down 1,500 ft.
S. K. Miller's No. 1 Copenhavers, NW cor. NW Sec. 18-24-13w ....Rigged up and shut down.
Gypsy-Prairie and others' No. 1 Thompson, SE cor. SW Sec. 10-25-15w ....Drlg. 5,920 ft.
Sinclair Oil & Gas Co.'s No. 1 Steward, C SW SW Sec. 33-27-16w ....Drlg. 5,320 ft.

WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-23-17w ....Shut down 1,387 ft.
Prairie Oil & Gas Co. and others' No. 1 James, NE cor. NW Sec. 23-23-17w ....Drlg. 5,432 ft.
Billy's Oil Co.'s No. 1 Watt, C SE Sec. 9-23-20w ....Drlg. 4,490 ft.
Burgoyne Brothers' No. 1 Merkins, SW cor. SE NE Sec. 15-21-19w ....Shut down 1,910 ft.

SOUTHERN OKLAHOMA

BRYAN COUNTY

Marshall's No. 2 fee, C SW SE NW Sec. 26-5s-7 ....Shut down 265 ft.
Yale Oil Syndicate's No. 1 Craige, C NW NE Sec. 36-9s-9e ....Shut down 1,816 ft.

CARTER COUNTY

Avon-Dickey's No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 ....Shut down 420 ft.

CHOCTAW COUNTY

Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6-19e ....Shut down 1,346 ft.

JEFFERSON COUNTY

Danciger et al's No. 1 Dilley, SE NW Sec. 11-5s-7w ....Rigging up to drill deeper.
Gypsy Oil Co.'s No. 1 Smith, C SW SE SE Sec. 2-7s-7w ..Drlg. 2,788 ft.

JOHNSTON COUNTY

Smith & Knisely's No. 1 Lane, E half Sec. 29-1s-7 ....Shut down 2,254 ft.

McCURTAIN COUNTY

Utopia Pet. Co.'s No. 1 Unknown, SE NW Sec. 14-9s-25 ..Location.
Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 ....Shut down 1,490 ft.

MARSHALL COUNTY

Westheimer & Daube's No. 1 Monsenberg, SE SW Sec. 26-7s-5 ....T. D. 1,146 ft.; P. B. 373 ft.

STEPHENS COUNTY

Smythe et al's No. 1 Johnson, NE cor. Sec. 30-2-8w ....Location.
Pandem Oil Co.'s No. 1 Harber, C SE SE Sec. 34-2-9w ....Drlg. 200 ft.
Porter & Monahan's No. 1 Robberson, SE NW Sec. 23-3s-4w ....Drlg. 2,800 ft.

TILLMAN COUNTY

Nance et al's No. 1 Massie, NE NW Sec. 36-18-6w ....Location.
Landfair and others' No. 1 Smith, SE SW SE Sec. 6-2s-16w ....Shut down 2,535 ft.

OKLAHOMA PANHANDLE

Skaer's No. 1 Hitch, NW cor. Sec. 25-1-15e ....Shut down 250 ft.
Stanley-Munday's No. 1 Club Lake, NE NW NW Sec. 31-6s-10e ....Shut down 660 ft.
Wirt Franklin's No. 1 Bandy, NW cor. Sec. 4-4s-10w ....Rig.
Pace et al's No. 1 Voss, C SE NW SW Sec. 23-2s-7w ....Drlg. 1,466 ft.
Pace et al's No. 1 Horton, C SE SW SE Sec. 26-2s-7w ....Drlg. 1,105 ft.
Pace et al's No. 1 Butler, C NW NW SW Sec. 35-2s-7w ..Drlg. 1,574 ft.

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This process consists in passing crude oil in a vapor phase through a specially prepared ACTIVATED ANIMAL CARBON, without chemical treatment.

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NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

Cochran County

Westbrook and others' No. 1 C. C. Slaughter, 400 feet north and west of the SE cor., Section 67, League 118, Knox County School Land.

Gray County

Haymer Oil & Gas Co.'s No. 1 J. S. Morse, 330 feet north and west of the SE cor. of the east half of the SE of Section 45, Block A-9, H.&G.N. Shamrock Oil & Gas Co.'s No. 1 J. J. Taylor, 330 feet south and west of the NE cor. NW, Section 6, Block 2, H.&G.N.

Wheeler County

The Texas Company's No. 1 T. and J. Cuddleback, at the center of the SE SE, Section 18, Block 24, H.&G.N.

NORTH CENTRAL AND WEST TEXAS

Archer County

Kemrow Production Co.'s No. 8 J. W. Campbell, 175 feet north and 150 feet east of the SW cor. of the J. W. Campbell 65.8-acre tract out of Section 1, Denton County School Land, League 3, A-117. Bridwell Oil Co.'s No. 1 W. J. McClure, 150 feet north and east of the SW cor. of the south 40 acres of the north 69 acres of the east 138 acres of the W. J. McClure 240-acre tract out of Section 13, Crawford Subdivision. Continental Oil Co. and Underwood's No. 7 H. L. and J. F. Ward, 150 feet south and 600 feet east of the NW cor., Section 1,378, T.E.&L. Douglas Oil Co.'s No. 2 W. J. McClure, 2,057 feet north and 490 feet east of the SW cor. Section 13, Crawford Subdivision. M. & V. Oil Co.'s No. 2 H. Kunkel, 150 feet north and 450 feet east of the SW cor. of the north 40 acres of the west 80 acres of the H. Kunkel 252-acre tract out of the G. W. Stell Survey A-381. McLaughlin Brothers' No. 1 W. M. Justice, 150 feet south and 810 feet east of the NW cor. of the west 105.85 acres of the south 211.70 acres of the W. H. Patton Survey A-345. Moran Drilling-Golding & Cochran's No. 1 W. L. Chandler, 150 feet south and west of the NE cor. of the W. L. Chandler 70-acre tract out of Section 24, G. P. Meade Subdivision, L.M. Pasture. Reeder and others' No. 5 A. M. Kunkel, 150 feet north and west of the SE cor. of the south 20 acres of the SE SE, Section 3, B.B.B.&C., A-51.

Brown County

G. A. Buder's No. 3 S. C. Kessler, 480 feet north and 150 feet west of the SE cor. of the east 20 acres of the north 90 acres of the S. C. Kessler tract out of Section 42, H.T.&B. G. A. Buder's No. 4 S. C. Kessler, 450 feet north and 150 feet east of the SW cor. of the east 20 acres of the north 90 acres of the S. C. Kessler tract out of Section 42, H.T.&B. S. Herring's No. 1 J. R. Burnett, 150 feet south and west of the NE cor. of the west half of the NW, Section 43, H.T.&B. Humble Oil & Refining Co.'s No. 8 J. C. Kilgore-A, 900 feet south and 200 feet east of the NW cor. of the east half of Section 3, J. Delgado Survey No. 789. E. L. Smith Oil Co.'s No. 9 L. A. George, 1,650 feet north and 150 feet east of the SW cor. of the L. A. George tract of Section 42, H.T.&B.

Coleman County

Eastland Oil Co and others' No. 6 I. Keeney-A, 800 feet north and 880 feet east of the SW cor. of their 95-acre lease out of the R. Cochran Survey No. 269. Permian Oil Co. and Gibson & Johnson's No. 3 J. Crowder, 128 feet south and 150 feet east of the NW cor. of their 20-acre lease out of the J. H. Wood Survey No. 483. L. Smith's No. 7 J. P. Morris, 126 feet south and 2,370 feet west of the NE cor. of the J. H. Wood Survey No. 483. E. L. Smith Oil Co.'s No. 1 J. J. Crowder, 150 feet south and east of the NW cor. of the east 50 acres of the south 140 acres of the J. J. Crowder 240-acre tract out of the J. H. Wood Survey No. 483. White Eagle Oil & Refining Co.'s No. 11 J. P. Morris, 648 feet north and 1,050 feet west of the SE cor. of the William Webber Survey No. 722. White Eagle Oil & Refining Co.'s No. 15 J. P. Morris, 648 feet north and 1,450 feet west of the SE cor. of the William Webber Survey No. 722. White Eagle Oil & Refining Co.'s No. 30 J. P. Morris, 150 feet north and east of the SW cor., Section 26, William Webber Survey No. 722.

Callahan County

E. P. Campbell Oil Corp.'s No. 1 J. R. Jackson, 1,631 feet south and 2,446 feet west of the NE cor. of the W. C. Powell Survey No. 4.

Cooke County

Coline Oil Co.'s No. 3 J. F. Huggins, 150 feet south and 750 feet west of the NE cor. of their 56-acre lease out of the S.P.R.R. Survey No. 9, A-982. Faith Oil Co.'s No. 1 J. O. Aldridge, 150 feet south and east of the NW cor. of the north 36 acres of the J. O. Aldridge 86-acre tract out of the R. Ekey Survey A-356. Kewanee Oil & Gas Co.'s No. 1 W. F. Burns, 150 feet north and west of the SE cor. of the W. F. Burns 85-acre tract out of the L. Pickering Survey A-839.

Crane County

C. C. Duffey and others' No. 6 Cowden Brothers & Co., 1,320 feet north and 760 feet west of the SE cor., Section 18, Block X, C.C.S.D.&R.G.N.G.R.R. Humble Oil & Refining Co.'s No. 2 University Land-D, 330 feet north and 990 feet east of the SW cor. NW, Section 34, Block 30, University Land.

Eastland County

Conway Brothers and Champion's No. 6 M. Simmons, 390 feet south and 510 feet east of the NW cor., Section 27, McLennan County School Land, League 2. States Oil Corp.'s No. 3 S. N. Coon, 450 feet north and 1,030 feet east of the SW cor., Section 27, Block 2, H.&T.C. Arab Gasoline Corp.'s No. 1 C. U. Connellee, 500 feet south and east of the NW cor. SW, Section 15, Block 4, H.&T.C. Texwa Oil Co. and States Oil Co.'s No. 2 Spencer & McGee, 150 feet south and east of the NW cor. NE SE, Section 29, Block 2, H.&T.C.

Foard County

Wichtex Oil Co.'s No. 2 T. A. Johnson, 490 feet north and west of the SE cor. of the T. A. Johnson 109.5-acre tract out of Section 44, Block 18, H.&T.C.

Glasscock County

Glasscock and others' No. 1 W. P. Edwards, 330 feet north and 1,650 feet west of the SE cor., Section 18, Block 33, T-2-S, T.&P. Lion Oil Refining Co.'s No. 2 R. C. Coffee, 330 feet south and 990 feet west of the NE cor. Section 22, Block 33, T-2-S, T.&P. Schermerhorn Oil Co.'s No. 2 J. J. Phillips, 330 feet south and 990 feet west of the NE cor., Section 23, Block 33,T-2-S, T.&P. Shell Petroleum Corp.'s No. 1 R. C. Coffee, 330 feet north and 1,650 feet west of the SE cor., Section 15, Block 33, T-2-S, T.&P. Simms Petroleum Co.'s No. 1 R. C. Coffee, 330 feet south and 1,650 feet west of the NE cor., Section 22, Block 33, T-2-S, T.&P. E. L. Smith Oil Co.'s No. 2 R. C. Coffee, 330 feet north and 990 feet west of the SE cor., Section 15, Block 33, T-2-S, T.&P.

Howard County

The California Co.'s No. 8 D. Roberts (lease 2), 994 feet north and 990 feet west of the SE cor., Section 137, Block 29, W.&N.W.R.R. Merrick & Lamb's No. 10 H. R. Clay, 1,070 feet north and 1,540 feet west of the SE cor., Section 126, Block 29, W.&N.W.R.R. Schermerhorn Oil Co.'s No. 5 D. Roberts, 990

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feet south and 330 feet west of the NE cor., Section 157, Block 29 W.&N.W.R.R.

Loving County

Independent Oil & Gas Co.'s No. 1 Jim Wheat, 330 feet southeast of the NW line of Section 85, Block 1, W.&N.W.R.R.

McCulloch County

J. F. Brock and others' No. 1 Commercial National Bank, 330 feet north and east of the SW cor., Section 303, C. Bredt Survey.

Montague County

Archer Drilling Co. and others No. 2 Mrs. M. H. Salmon, 150 feet south and 225 feet west of the NE cor. of the W. P. Zuber Survey A-887.

Parker County

B. Waters Drilling Co.'s No. 1 J. W. Davis, 150 feet north and 750 feet west of the E cor. of Section 2,550, T.E.&L.

Pecos County

Cosby Production and Roy Co.'s No. 1 Kansas City and Fort Stockton Ltd. Co., 330 feet south and east of the NW cor. NE, Section 31, Block 178, T.C.R.R. Ditman Drilling Co. and others' No. 1 J. C. and D. H. Cunningham, 330 feet south and west of the NE cor., Section 34, Block 11, H.&G.N. Landreth Production Co.'s No. 2 J. A. McDonald-A, 330 feet south and west of the NE cor. SE, Section 46, Block 12, H.&G.N. Phillips Petroleum Co.'s No. 4 I. M. Ramsey, 2,722 feet south and 1,980 feet west of the NE cor., Section 17, Block 194, G.C.&S.F. Sides & Cloyd's No. 2 Blackstone & Slaughter, at the center of the NW, Section 3, Block A-2, T.C.R.R. E. P. Zoch and others' No. 1 Ltd. Co., at the center of the SW, Section 81, Block 11, H.&G.N.

Shackelford County

Big State Oil Co.'s No. 13 Russ-Webb, 1,800 feet north and 2,700 feet east of the SW cor., Section 17, Block 11, T.&P. P. K. French's No. 1 E. S. Dawson and others' (Section 161,) at the center of the SE SW, Section 161, Block 10, E.T.R.R. J. L. Hamon, Jr.'s No. 1 Morris and Buie, 159 feet south and west of the NE cor. of Section 167, Block 10, E.T.R.R. T. James' No. 1 H. Herron, 450 feet south and east of the NW cor. SE, Section 10, Block 11, T.&P. F. C. Morton's No. 1 L. G. Davis, 1,470 feet south and 150 feet west of the NE cor., Section 39, Block 12, T.&P. Tannehill and others' No. 26 W. P. Newell, 1,578 feet north and 2,502 feet west of the SE cor., Section 11, Block 11, T.&P.

Stephens County

Universal Oil & Gas Co.'s No. 1 J. Q. Corbett estate, 700 feet north and 900 feet west of the SE cor., Section 1,070, T.E.&L.

Throckmorton County

Magnolia Petroleum Co.'s No. 1 W. S. Marshall, 150 feet south and west of the NE cor. of the west half of Section 949, T.E.&L.

Ward County

J.H.L. Oil Co.'s No. 3 S. F. Hayzlett, 220 feet northeast of the southwest line and 220 feet northwest of the southeast line, Section 17, Block 5, H.&T.C. Shipley and others' No 3 S. F. Hayzlett, 150 feet northeast of the southwest line and 150 feet southeast of the northwest line of the northeast 80 acres of the southwest 160 acres of the southeast 320 acres of Section 17, Block 5, H.&T.C.

Wichita County

Ascot Co.'s No. 56 J. E. Roller, 1,620 feet south and 50 feet east of the NW cor. of its lease out of the W. A. Grady Survey A-351. Ascot Co.'s No. 47 J. E. Roller, 1,470 feet south and 325 feet east of the NW cor. of its lease out of the W. A. Grady Survey A-351. Ascot Co.'s No. 48 J. E. Roller, 1,320 feet south and 50 feet east of the NW cor. of its lease out of the W. A. Grady Survey A-351.

Balyeat and others' No. 1 F. P. Warren, 1,128 feet south and 1,481 feet west of the NE cor. of the F. P. Warren 201-acre tract out of the D.L.&C. Survey A-714. Brown & Lickey's No. 1 G. W. Norwood, 2,000 feet north and 3,000 feet east of the SW cor. of Section 36, Palo Pinto County School Land, A-241 and located in Section 35. B. M. Griswold's No. 1 B. F. Dutton, 750 feet south and east of the NW cor. NW, Section 18, Benton County School Land, League 4, A-417. Hi-Land Oil Co.'s No. 2 R. L. Crump, 1,237 feet south and 150 feet east of the NW cor., Section 10, Denton County School Land, League 4, A-417.

J. L. Swanner's No. 1 Mrs. B. Parker and others, 1,050 feet north and 150 feet east of the SW cor., Section 15, Palo Pinto County School Land, A-241. Continental Oil Co. and Petroleum Producing Co.'s No. 2 M. A. Love, 810 feet north and 900 feet east of the SW cor. of the M. A. Love tract out of the W. S. Kennard Survey A-171. Golding & Cochran's No. 1 J. L. and T. J. Waggoner-B, 450 feet north and 150 feet east of the SW cor. of Lot 30, H. George Survey A-454. J. H. Hemby's No. 1 J. C. Duke, 150 feet south and 93 feet west of the NE cor. of Lot 9, Section 20, H.&G.N., A-410. J. M. Hemby's No. 2 J. C. Duke, 500 feet south and 150 feet west of the NE cor. of Lot 9, Section 20, H.&G.N., A-410. J. M. Hemby's No. 3 J. C. Duke, 500 feet south and 450 feet west of the NE cor. of Lot 9, Section 20, H.&G.N., A-410. J. M. Hemby's No. 4 J. C. Duke, 150 feet south and 450 feet west of the NE cor. of Lot 9, Section 20, H.&G.N., A-410. T. F. Hunter's No. 8 J. L. and T. J. Waggoner-C, 500 feet south and 150 feet east of the NW cor. of the H. George Survey A-454. J. E. Keller's No. 4 J. L. and T. J. Waggoner, midway east and west and 810 feet north of the south line of Lot 1, M. A. Willis Survey A-548. G. W. Maywood's No. 2 E. McBurney, 975 feet north and 300 feet east of the SW cor., Section 195, Waggoner Colony Subdivision. G. W. Maywood's No. 3 E. M. Burney, 1,275 feet north and 600 feet east of the SW cor., Section 195, Waggoner Colony Subdivision. Panhandle Refining Co.'s No. 10 T. L. Burnett and others-A, 150 feet south and 488 feet west of the NE cor. SE, Section 6, S.A.&M.C., A-464. Ven-Mex Oil Co.'s No. 21 J. L. and T. J. Waggoner, 200 feet north and 150 feet west of the SE cor. of Lot 9, Section 2, G.C.&S.F., A-772; No. 22 J. L. and T. J. Waggoner, 500 feet north and 450 feet west of the SE cor. of Lot 9, Section 2, G.C.&S.F., A-772.

Wilbarger County

Bass-Dillard & Simms Oil Co.'s No. 1 W. T. Waggoner-B, 150 feet south and west of the NE cor. of the south half of the SW SE, Section 10, Block 13, H.&T.C. C. P. Burton and others' No. 6 W. T. Waggoner-I, 450 feet south and west of the NE cor. of their lease "I" out of Section 40, M.E.P.&P. Consolidated Oil Co.'s No. 1 W. T. Waggoner-S, 1,330 feet south and 150 feet west of the NE cor. of the west 80 acres of the north 320 acres of Section 37, Block 4, H.&T.C. Cosden Oil Co.'s No. 3 W. T. Waggoner-D, 1,461 feet south and 450 feet west of the NE cor., Section 35, Block 2, H.&T.C. Cosden Oil Co.'s No. 4 W. T. Waggoner-D, 1,461 feet south and 750 feet west of the NE cor., Section 35, Block 2, H.&T.C. Davis Oil Corp.'s No. 2 W. T. Waggoner, 150 feet north and west of the SE cor. NE NE, Section 35, Block 2, H.&T.C. Dixie Oil Co.'s No. 1 W. T. Waggoner-G, 205 feet north and east of the SW cor. SW NW, Section 7, Block 17, H.&T.C. Empire Gas & Fuel Co.'s No. 17 W. T. Waggoner-A, 874 feet north and 205 feet west of the SE cor. NW, Section 32, Block 4, H.&T.C. Empire Gas & Fuel Co.'s No. 23 W. T. Waggoner-B, 382 feet north and 215 feet east of the SW cor. NW SW, Section 32, Block 4, H.&T.C. Empire Gas & Fuel Co.'s No. 24 W. T. Waggoner-B, 710 feet south and 205 feet east of the NW cor. SW, Section 32, Block 4, H.&T.C. Empire Gas & Fuel Co.'s No. 16 W. T. Waggoner-C, 655 feet north and 205 feet west of the SE cor. NW, Section 25, Block Block 4, H.&T.C. Fain-McGaha Oil No. 18 W. T. Waggoner-W, 700 feet north and 225 feet east of the SW cor. of their lease "W" out of Section 32, Block 4, H.&T.C. Fain-McGaha Oil Corp.'s No. 1 W. T. Waggoner-GG, 450 feet south and 150 feet east of the NW cor. SW NE, Section 8, Block 4, H.&T.C. Fain-McGaha Oil Corp.'s No. 1 W. T. Waggoner-HH, 150 feet north and west of the SE cor. of the north half of the

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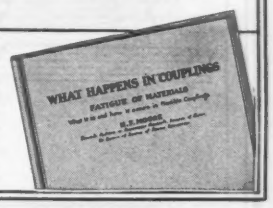

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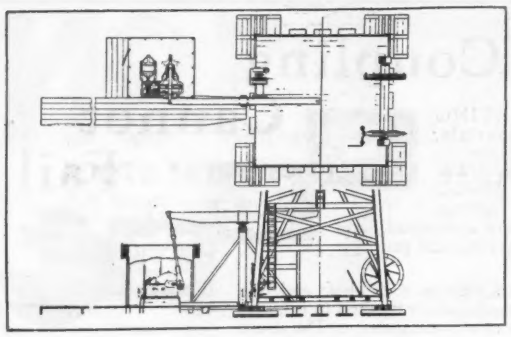

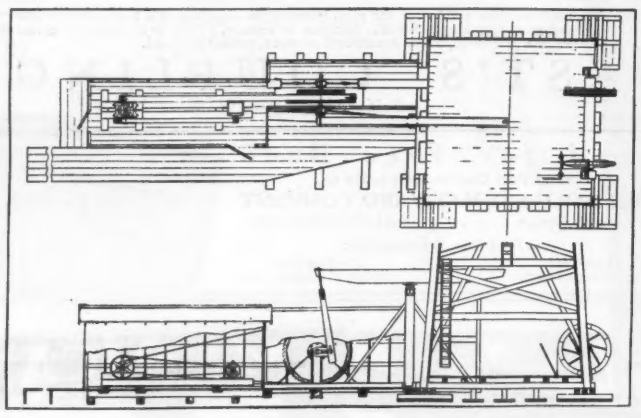

These illustrations show the relative amount of housing space required for typical belted countershaft and bandwheel drive (Bottom), and a Westinghouse-Nuttall double-reduction gear drive (Top).

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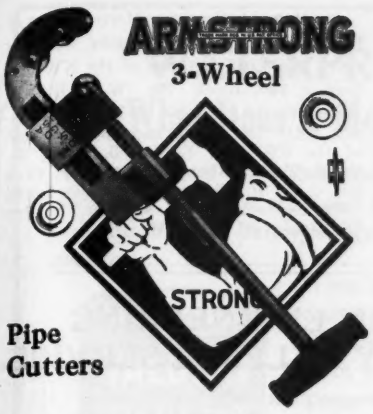

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NE, Section 9, Block 4, H.&T.C. Lewis Production Co.'s No. 8 W. T. Waggoner-B, 165 feet north and 450 feet east of the SW cor. NE NW, Section 8, Block 4, H.&T.C. E. H. Pigg's No. 1 T. J. Milner, 150 feet south and 200 feet west of the NE cor. SW SE, Section 30, Block 9, H.&T.C. Staley-Wynne & Co.'s No. 7 W. T. Waggoner-B, 205 feet north and west of the SE cor. NE SW, Section 25, Block 4, H.&T.C. Staley-Wynne & Co.'s No. 5 W. T. Waggoner-E, midway east and west and 665 feet south of the north line of the SW NE, Section 25, Block 4, H.&T.C. Staley-Wynne & Co.'s No. 15 W. T. Waggoner-G, 600 feet south and 205 feet east of the NW cor. SE, Section 32, Block 4, H.&T.C. Vernon Wood Oil Co.'s No. 2 W. T. Waggoner, 150 feet south and 750 feet east of the NW cor. SE NW, Section 8, Block 4, H.&T.C. Waggoner Refining Co.'s No. 12 W. T. Waggoner-J, 205 feet north and 255 feet west of the SE cor. NW NE, Section 25, Block 4, H.&T.C.

Young County

R. E. Allday and others' No. 1 N. H. and N. Clark, 750 feet south and 150 feet west of the NE cor., Section 1,993, T.E.&L. E. P. Bowen and others' No. 1 H. E. Neeley, 450 feet south and west of the NE cor., Section 176, T.E.&L. Comac Drilling Co.'s No. 1 J. Hausler, 150 feet north and 1,070 feet east of the SW cor. of the J. Hausler 320-acre tract out of Section 1, J. Poitevent Survey A-349. Continental Oil Co. and Underwood's No. 3 R. Campbell, 150 feet north and west of the SE cor. of the north 100 acres of the east 160 acres of Section 1,376, T.E.&L. N. D. Goldsmith and others' No. 1 Dan Hargroves, 450 feet south and 150 feet east of the NW cor. of the east 40 acres of the north 160 acres of Section 283, T.E.&L.

Holbrook & Wood's No. 3 J. W. Dean, 450 feet south and 150 feet west of the NE cor. SW, Section 19, Young County School Land, A-1,284. Holbrook & Wood's No. 4 J. W. Dean, 450 feet south and west of the NE cor. SW, Section 19, Young County School Land, A-1,284. Madden & Hunt's No. 1 H. O. Kunkel, 150 feet north and east of the SW cor. of the east 20 acres of the south 40 acres of the east 84 acres of the west 164 acres of the H. D. Kunkel 252-acre tract out of the G. W. Stell Survey A-256. Perkins & Cullum's No. 3 J. L. Lemmond, 2,050 feet north and 2,150 feet west of the SE cor., Section 1, B.B.B.&C. A-35. Riggs & Williams' No. 1 J. F. Shatte, 150 feet south and west of the NE cor. SW, Section 1,916, T.E.&L. Smor Oil Co. and others' No. 1 J. C. Petty, 150 feet north and east of the SW cor. of the J. C. Petty 80-acre tract out of Section 1,944, T.E.&L. Willis & Gatewood's No. 1 H. and B. Wellen, 150 feet north and east of the SW cor., Section 631, T.E.&L. T. G. Shaw and others' No. 1 J. Kisinger-C, 1,850 feet NW of the northwest line of the W. J. Orrick Survey A-217 and 2,325 feet southwest of the southwest line of Section 3, B.B.B.&C., A-27 and located in the J. Conner Survey A-57, being 175 feet north and 150 feet west of the SE cor. of their 80-acre lease-C. Shaw & Singleton's No. 1 T. J. Pickard, 150 feet north and west of the SE cor. of the T. H. Woodley Survey A-1654.

CORRECTIONS

In Wichita County: Hi-Land Oil Co.'s No. 1 R. L. Crudup, 937 feet south and 150 feet east of the NW cor, Section 10, League 4, Denton County School Land, A-417. Star Drilling Co.'s No. 1 R. L. Crudup-B, 637 feet south and 150 feet east of the NW cor., Section 10, League 4, Denton County School Land, A-417. Bateman & Dingee's No. 1 G. L. Woodard, 150 feet south and east of the NW cor. W half NW, Section 290, Waggoner Colony Subdivision.

In Shackelford County: George Callihan and others' No. 9 J. H. Nail, 660 feet west of the NE cor. of the west half and located on the north line of Section 133, Block 10, E.T.R.R.

In Pecos County: Shell Petroleum Corp.'s No. 2 University Land-C, 330 feet north and west of the SE cor. SW NW, Section 31, Block 16, University

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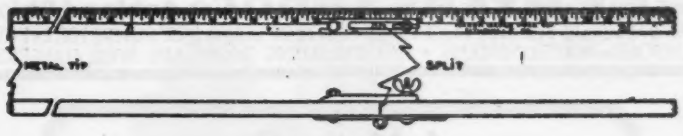

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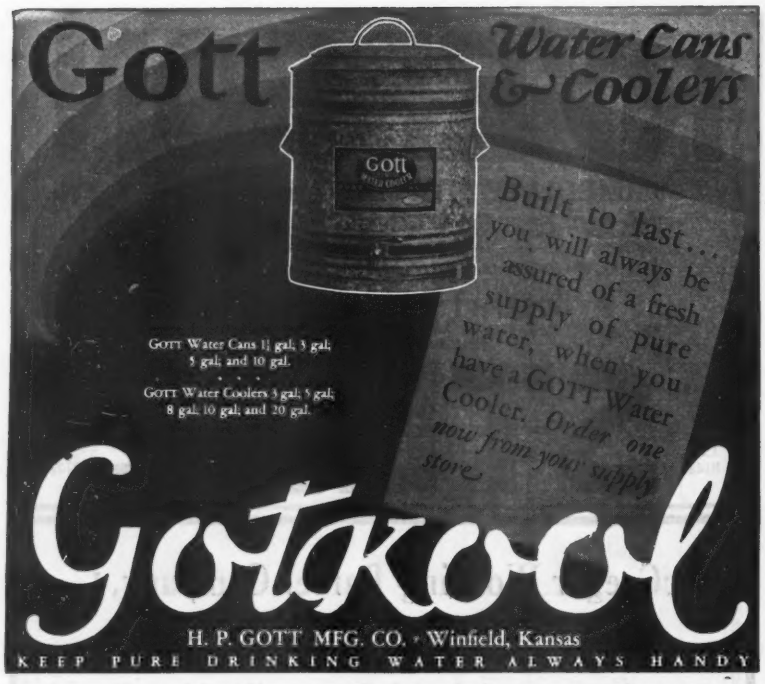
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In Stephens County: Ashe Syndicate's No. 3 Mary J. Hart and others, 750 feet north and 450 feet west of the SE cor. SE, Section 22, Block 4, T.&P.

In Archer County: Heydrick & Stump's No. 1 J. H. White, 150 feet north and 450 feet east of the SW cor. of Lot 2, Section 41, A.T.N.C.L.

In Howard County: Merrick-Bristow Oil Co.'s No. 12 A. J. Hooks, 660 feet south and 1,035 feet east of the NW cor. Section 140, Block 29, W.&N.W.R.R. Plymouth Oil Co.'s No. 6 Kloh & Rumsey, 2,310 feet north and 330 feet east of the SW cor., Section 5, Block 32, T-2-S, T.&P. Simms Petroleum Co.'s No. 1 H. R. Clay, 330 feet north and 1,650 feet east of the SW cor., Section 127, Block 29, W.&N.W.

PLANS OF PETROLEUM ENGINEERING SCHOOL EMBODY HELPFUL SERVICE

By Prof. R. C. Beckstrom, A.B., M.S.
Dean of the School of Petroleum Engineering, University of Tulsa

Scope and purpose of the School of Petroleum Engineering now established at the University of Tulsa are similar to those of the Mellon Institute of Industrial Research, and it is planned to make the school a leader in the investigation and advancement of new ideas for more efficient methods of oil production. It is purposed to give thorough training to students who want a degree in this subject, to help the self-made oil company employe improve himself as much as possible and to foster research by individual companies and for the industry as a whole. To accomplish all of this, aid is given not only by an experienced faculty and up-to-date equipment, but in a large measure by the spirit of work created by groups of men with a community interest studying under the same roof and co-operating to further advancement of science as applied to the petroleum industry.

This school will attract many types of men interested in petroleum engineering for various reasons. The regular students will be those who are studying for a degree and who come direct from preparatory schools or high schools. Those taking advanced work will come from other schools through the regular channels or with scholarships and fellowships, from oil companies, foreign governments, or the United States Army and Navy technical divisions. Special students will be mainly ambitious field men in any position from a roustabout to a superintendent whose deficient educational background prevents them from taking a degree, but who want to better themselves or to work out new ideas in production or refining, or the improvement of old methods. Another class of men will be sent by oil companies to do independent and private research for their firms where they will have the advantages of the school's complete and modern equipment.

Keynote Is Service

The keynote of such a school will be that of service and it will be equipped to give such service in library, laboratory and lecture room.

The library will be complete and up-to-date. It will include a comprehensive section on geology and one on petroleum in all its phases. It will receive all important publications and periodicals on both subjects. It will have the best known foreign publications and periodicals. There also will be complete material on patents relative to the petroleum industry. All of these publications will be cataloged so as to be easily accessible.

A large laboratory with modern equipment efficiently arranged will enable students to reproduce actual conditions of the field on a small scale. Small laboratories, each equipped for the study of some one special subject, as for instance gases, light oils, heavy oils, the effect of gases on crude petroleum, etc., will foster research by advanced students or by anyone in the school interested in some special problem. Small private laboratories with general equipment will be assigned to special students not working for credit and will offer a particularly important service in being assigned from time to time to various oil companies.

The commercial value of scientific research is rapidly being recognized in the industry, but the average oil company hesitates to establish a research laboratory, or if it does equip one, finds that it is expensive and does not give maximum results, due to poor arrangement, poor choice of equipment, lack of library facilities and poor management.

Private Laboratories Assigned

The School of Petroleum Engineering will meet this problem by assigning equipped private laboratories, which not only will be much better arranged but will be cheaper for the company than one which it can provide for itself. Semi-commercial laboratories equipped to reproduce actual conditions of stills, pipe lines, air lifts, storage tanks, etc., will bring the institution in still coser touch with the industry.

The school will have one large demonstration and lecture room, containing an up-to-date demonstration table and complete equipment for projecting both still and moving pictures. This room will be used not only for regular classes and demonstrations but for public meetings and lectures, invited speakers and meetings of technical societies.

The faculty will have at least one teacher for each of the departments of production, refining, gas, and management. These men will have had experience in petroleum work, and such training will also be required of each man who teaches physics, including the study of geophysical instruments (torsion balance, seismograph, magnetometer) and their work, organic chemistry, and physical chemistry. The teacher of mathematics will have an engineering background so that he will be able to make the proper application of his work to the needs of his students, and the teacher of English might well have such a background also.

Other teachers will give work in engineering subjects such as design of equipment, electricity, thermodynamics, hydraulics, strength of materials and reinforced concrete. In all of the courses an effort will be made to present not only their fundamentals but their direct application to the petroleum industry.

Work Carried On

In such an institution the keynote of service to the petroleum industry will be sounded by every type of work carried on under its roof—the work of the faculty, regular students, special students and men from oil companies doing independent work. The service which the faculty will give, aided by assistants who hold fellowships or scholarships, is the carrying on of research, either purely scientific or partly economic in value, with a view to publication.

Regular students will contribute by their work on current problems, and such work can be made immensely valuable with the aid of the faculty, the library, and laboratory equipment. The special students, consisting largely of field men anxious to better themselves, who want to work out new ideas in productin or refining or the revision of old methods, will be benefited not only by all the facilities the school has to offer but by suggestions from their companies and by the field as a background of experience and a place for experimentation. The last mentioned class of men, sent out to work in the laboratories by their companies. will be able to carry on their work independently and privately, but will nevertheless have the advantage of plentiful sources of information and much help as an institution can provide.

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Prairie P. L. Co.*	4,882,500	157,500
Gulf P. L. Co.	2,060,981	66,483
Texas P. L. Co.	861,022	27,775
Empire P. L. Co.	2,082,864	67,180
Magnolia P. L. Co.	2,204,970	71,128
Cosden P. L. Co.	849,144	27,392
Sinclair P. L. Co.*	3,162,000	102,000
Oklahoma P. L. Co.	3,392,247	109,427
Other lines	6,758,000	218,000
Total August	26,253,728	846,894
Total July	26,242,489	846,533
Difference	11,239	361

Shipments

Prairie P. L. Co.†	6,929,412	223,529
Gulf P. L. Co.	1,937,604	62,503
Texas P. L. Co.	1,595,403	51,465
Empire P. L. Co.	1,436,083	46,325
Magnolia P. L. Co.	2,393,980	77,225
Cosden P. L. Co.	1,046,281	33,751
Sinclair P. L. Co.†	3,353,206	108,168
Oklahoma P. L. Co.	3,493,038	112,679
Other lines	6,510,000	210,000
Total August	28,695,007	925,645
Total July	28,407,890	916,383
Difference	287,117	9,262

Stocks

Prairie O. & G. Co.*	37,393,000
Gulf P. L. and Gypsy Oil Co.	9,970,852
The Texas Co.	8,158,171
Empire P. L. Co.	4,997,243
Cosden P. L. Co.	3,334,711
Sinclair Crude Oil Pur. Co.*	20,343,000
Magnolia Pet. Co.	9,702,175
Oklahoma P. L. Co.	3,369,176
Carter Oil Co.	10,481,816
Other lines*	10,813,000
Total August	118,563,144
Total July	117,552,865
Difference	1,010,279

*Estimated. †Prairie shipments include Texas crude oil, and Sinclair shipments include Texas and Wyoming crude oil.

Note—Stocks do not include approximately 16,000,000 bbls. of crude oil held in storage on private tank farms and leases.

EASTERN PIPE LINE REPORT

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for July and August:

	July, 1929	Aug., 1929
Nat. Transit	268,968.24	307,546.82
S. W. Pa. P. L.	96,958.15	92,316.86
Eureka P. L.	378,139.18	373,176.67
Buckeye P. L. (Macksburg)	352,288.54	334,947.96
Buckeye P. L. (Cleveland)	12,698.84	13,069.95
Buckeye P. L. (Lima, etc.)	141,314.51	130,364.10
Indiana P. L.	5,565.67	5,572.79
Cumberland P. L.	217,391.68	197,780.44
N. Y. Transit	32,169.25	31,452.26
Tidewater P. L.	284,597.46	280,916.87
Pure Oil	164,484.42	207,822.79
Emery P. L.	72,339.64	73,262.76
Paragon Dev.	16,235.33	13,721.35
Stoll Oil Ref.	5,453.55	5,334.49
Total	2,042,704.46	2,067,286.14
Daily average	66,087.24	66,686.65

Note—Indian Refining Co. also reported other receipts of 402,054.35 bbls. Paragon Refining Co. had other receipts of 164,666.55 bbls. Paragon Development had other receipts of 390.08 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio and Kentucky for July and August:

	July, 1929	Aug., 1929
Nat. Transit	448,413.13	433,226.85
S. W. Pa. P. L.	492,117.59	360,915.13
Eureka P. L.	268,871.91	282,805.08
Buckeye P. L. (Macksburg)	239,542.25	185,208.11
Buckeye P. L. (Cleveland)	2,190.55	2,185.04
Buckeye P. L. (Lima, etc.)	1,656,505.17	1,593,076.04
Indiana P. L.	1,426,217.69	1,426,167.56
Cumberland P. L.	200,632.22	201,459.97
Southern P. L.	67,284.26	36,241.30
N. Y. Transit	303,215.81	290,004.27
Northern P. L.	173,766.22	192,966.11
Tidewater P. L.	245,185.79	249,359.87
Pure Oil	163,598.14	214,822.99
Emery P. L.	67,577.88	75,477.55
Paragon Ref.	359,400.21	174,796.42
Paragon Dev.	13,142.33	14,507.08
Total	6,037,661.25	5,733,319.61
Daily average	194,763.27	184,945.79

Indian Refining Co. reported other deliveries of 411,583.39 bbls.

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of July and August:

	July, 1929	Aug., 1929
Nat. Transit	692,912.76	689,249.61
S. W. Pa. P. L.	579,475.28	551,344.06
Eureka P. L.	1,309,053.70	1,338,075.04
Buckeye P. L. (Macksburg)	431,010.70	434,154.82
Buckeye P. L. (Cleveland)	71,315.42	58,890.03
Buckeye P. L. (Lima, etc.)	3,470,370.27	3,721,519.25
Indiana P. L.	638,122.50	668,771.87
Cumberland P. L.	559,326.34	556,916.14
Southern P. L.	417,168.75	399,390.51
N. Y. Transit	235,029.71	201,133.36
Northern P. L.	416,713.78	433,718.68
Tidewater P. L.	1,109,732.21	1,028,430.16
Pure Oil	17,189.77	16,303.76
Emery P. L.	13,197.88	10,275.09
Paragon Ref.	22,399.32	11,989.49
Indian Ref.	59,096.91	50,525.66
Paragon Dev.	4,897.15	4,645.76
Tuscarora	265,071.90	264,809.29
Total	9,211,595.35	9,440,642.59
Decrease	290,220.30	229,047.24

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of July and August showing the gross stocks of the above fields:

	July, 1929	Aug., 1929
Pennsylvania	3,230,774.85	3,278,178.01
Lima	701,522.68	648,102.38
Kentucky	780,445.07	767,210.90
Mid-Continent	4,226,436.12	4,457,893.11
Illinois	272,416.63	288,258.19
Total	9,211,595.35	9,440,642.59

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1926	1927	1928	1929
January	55,630	56,209	52,904	51,749
February	60,394	61,298	57,002	51,823
March	61,644	63,247	57,485	54,252
April	63,019	60,927	56,812	53,444
May	60,580	60,284	52,067	59,902
June	61,121	62,757	53,230	53,833
July	63,206	58,674	57,144	56,087
August	61,315	60,870	57,745	56,687
September	64,639	60,285	53,487	.....
October	161,132	147,080	55,100	.....
November	67,774	57,275	53,565	.....
December	58,755	63,089	53,025	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1926	1927	1928	1929
January	156,056	141,227	146,465	165,721
February	159,488	138,534	167,368	159,387
March	150,239	133,777	158,882	161,474
April	152,374	140,227	172,935	169,737
May	160,998	144,594	180,559	184,281
June	160,267	149,772	188,024	185,404
July	160,045	151,850	189,470	194,763
August	151,929	188,653	192,853	184,946
September	158,915	144,213	194,138	.....
October	161,132	147,036	176,000	.....
November	172,608	150,975	176,898	.....
December	136,428	144,504	173,572	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1927	1928	1929
January	9,718,008	12,276,710	7,596,564
February	10,119,162	12,180,419	8,738,836
March	10,794,044	12,239,725	9,002,058
April	11,112,295	11,740,125	8,978,172
May	11,359,381	11,602,468	8,903,580
June	11,493,673	11,287,678	8,931,276
July	11,458,128	10,819,331	9,211,595
August	11,989,115	10,226,743	9,440,642
September	12,212,716	9,660,910	.....
October	12,047,661	9,229,709	.....
November	11,939,740	8,366,553	.....
December	12,340,297	7,529,555	.....

Franklin Pipe Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

	Runs	Shipments	Stocks
1928—			
June	3,153.08	2,779.02	17,932.51
July	2,902.50	3,628.02	17,197.06
August	2,874.11	2,350.13	17,721.04
September	2,820.31	5,255.42	15,285.93
October	1,289.93	538.89	17,551.93
November	2,663.53	788.47	19,426.99
December	3,053.60	3,167.53	19,426.99
1929—			
January	2,099.90	.....	19,312.06
February	2,469.47	4,873.20	17,009.33
March	3,330.83	2,595.01	16,745.04
April	4,864.07	4,242.59	17,365.52
May	2,688.59	2,455.54	17,598.57
July	2,947.62	3,329.35	4,502.44
August	2,742.73	2,889.47	4,356.74

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, September 1	2,336,943.46
Runs from wells	598,667.57
Other receipts	481,720.84
Regular deliveries	707,329.55
Other deliveries	393,919.12

The amount of Illinois oil run by the Tidewater Pipe Co. in August was 26,484.42 bbls. Deliveries were 39,195.51 bbls. Adding these figures to those of the Illinois Pipe Line Co makes the runs and deliveries as follows:

	Runs	Deliveries
1928—		
September	570,307.91	737,293.50
October	626,147.64	626,290.40
November	576,332.38	702,589.91
December	584,638.00	491,517.36
1929—		
January	570,727.38	545,084.66
February	517,330.17	503,337.70
March	728,319.67	586,049.50
April	515,374.27	654,297.96
May	608,981.60	673,312.53
June	568,454.70	813,845.97
July	611,106.79	828,159.44
August	625,351.99	746,425.06

Tidewater Pipe Co., Ltd., also delivered in August, 327,478.83 bbls. Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
January	15,833	.....	16,676	11,838	7,933	52,280	.....	.....	.....	.....	4,161	57,451
February	14,214	.....	38,750	17,250	11,607	81,821	.....	.....	.....	.....	3,750	85,571
March	19,903	968	31,258	16,581	7,355	76,065	.....	.....	.....	.....	.....	76,065
April	16,667	.....	32,333	13,233	2,234	64,467	.....	.....	.....	.....	7,333	86,200
May	16,226	2,416	31,326	10,806	2,129	62,903	.....	.....	.....	.....	.....	62,903
June	14,866	3,167	23,100	10,300	6,100	57,533	.....	.....	.....	.....	.....	57,533
July	15,387	4,866	34,290	19,383	2,452	76,323	.....	.....	.....	.....	4,161	80,484
August	20,389	3,129	35,226	16,903	5,548	83,194	.....	.....	.....	.....	13,161	96,355

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
January	11,936	8,903	130,065	34,871	15,709	201,484	.....	24,808	4,098	1,237	40,193	241,677
February	13,750	15,071	125,179	32,750	17,893	214,643	.....	24,357	821	143	35,321	249,964
March	18,643	26,064	145,516	39,162	28,163	257,452	.....	42,581	2,322	.....	44,903	302,354
April	19,733	18,367	137,233	60,267	22,567	248,167	6,867	25,066	10,367	1,500	43,800	291,967
May	29,806	19,258	138,000	49,936	22,322	259,322	6,677	26,323	3,000	1,323	37,323	296,645
June	21,433	8,667	134,600	42,967	18,300	225,967	8,600	22,633	11,800	2,033	45,066	281,033
July	40,097	15,129	111,677	43,420	31,516	241,839	4,774	12,097	9,516	161	26,548	268,387
August	33,387	14,355	162,644	30,936	20,355	261,677	4,226	13,742	.....	1,484	48,452	280,129

GROSS PRODUCTION IN THE UNITED STATES FOR 12 MONTHS (REVISED)

(In barrels of 42 gallons)

1928-29		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts	Eastern	Total
September:	Month	18,908,169	22,456,860	21,554,269	3,047,250	1,540,070	1,230,225	4,422,430	3,229,000	75,998,273
	Daily average	630,272	748,562	718,207	101,575	84,669	41,007	81,047	104,300	2,533,279
October:	Month	19,430,992	23,421,071	23,176,553	3,058,400	2,652,484	1,236,221	3,571,822	3,613,000	78,769,903
	Daily average	626,806	755,841	715,276	98,660	85,564	39,223	83,962	116,516	2,540,964
November:	Month	19,907,526	23,076,630	20,791,793	2,977,800	2,476,080	1,801,914	3,388,870	3,348,000	75,770,665
	Daily average	663,584	735,956	693,059	99,260	82,536	60,064	79,629	111,600	2,525,685
December:	Month	21,574,703	22,425,722	23,180,103	3,088,400	2,521,571	1,846,241	3,289,040	3,581,000	79,407,379
	Daily average	695,958	723,410	715,487	99,400	81,341	59,576	73,840	116,516	2,561,524
January:	Month	23,335,989	23,575,874	23,413,226	3,861,641	2,453,526	1,807,887	3,076,070	4,439,000	82,012,163
	Daily average	754,386	728,254	755,233	92,311	79,146	58,318	66,970	110,936	2,646,554
February:	Month	22,300,797	20,464,164	20,816,309	3,557,963	2,154,194	1,569,930	1,965,656	4,113,000	74,941,223
	Daily average	796,454	730,863	743,454	91,356	76,936	56,068	70,202	111,184	2,676,472
March:	Month	24,324,739	20,838,263	24,358,592	3,951,076	2,303,734	1,756,153	3,195,823	4,586,000	82,314,359
	Daily average	784,669	672,202	784,889	95,196	74,314	56,650	70,338	115,677	2,655,302
April:	Month	23,295,060	20,235,290	26,492,097	3,112,740	2,188,680	1,702,479	3,035,030	3,524,000	79,636,376
	Daily average	776,503	674,513	883,103	103,758	72,956	56,750	69,501	117,467	2,654,546
May:	Month	24,053,351	21,345,453	24,439,101	3,665,099	2,230,158	1,712,261	3,252,522	3,379,000	83,617,944
	Daily average	775,915	688,563	788,985	118,229	71,618	55,267	72,662	125,129	2,697,353
June:	Month	24,624,627	20,561,113	24,698,029	3,636,150	2,112,270	1,699,581	3,180,753	3,887,000	82,399,521
	Daily average	820,821	685,371	823,267	121,205	70,337	56,653	72,692	129,567	2,779,984
July:	Month	26,796,657	23,271,935	26,969,989	3,867,157	2,137,047	1,716,495	3,360,836	4,439,200	90,659,730
	Daily average	864,407	721,675	869,997	124,747	68,937	55,370	76,156	143,200	2,924,489
August:	Month	27,233,353	22,429,492	27,490,489	3,816,555	2,086,083	1,764,973	2,478,016	4,340,000	91,638,961
	Daily average	878,495	723,532	886,787	123,115	67,293	56,934	79,936	140,000	2,956,092
	Total 12 Months	275,835,783	261,213,905	282,430,754	38,540,296	27,845,887	21,045,953	27,276,867	43,977,200	978,166,645

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